

UK National Programme for the Collection and Management of Fisheries Data in 2006

In Compliance with EC Regulation 1543/2000, 1639/2001 & 1581/2004

Department of the Environment, Food and Rural Affairs (Defra)
Scottish Executive Environment and Rural Affairs Department
(SEERAD)

Department of Agriculture and Rural Development Northern Ireland
(DARDNI)

Centre for Environment, Fisheries and Aquaculture Science
Fisheries Research Service

PROJECT INITIATION DOCUMENT

*EU Data Collection Regulation
2006 Economic Survey of the UK Fishing Fleet*

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Project Initiation Document History

Revision History

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Date of Next revision:

Revision date	Previous revision date	Summary of Changes	Changes marked
25-09-05		First issue	

Approvals

This document requires the following approvals.

Signed approval forms are filed in the Management section of the project files.

Name	Signature	Title	Date of Issue	Version
Hazel Curtis		Chief Economist		
Kevin Williamson		Head of Fisheries Statistics (DEFRA)		
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Distribution

This document will be distributed to

Name	Title	Date of Issue	Version
Hazel Curtis	Chief Economist		1
Kevin Williamson	Head of Fisheries Statistics (DEFRA)		1
Vacant	Head of Fisheries Statistics (SEERAD)		1

Project Initiation Document

Purpose of Document

The purpose of this document is to define the project, to form the basis for its management and the assessment of overall success. It also forms part of the contract with the client.

Background

The European Commission has set out a Council Regulation to establish a community framework for the collection and management of data needed to support the implementation and monitoring of the Common Fisheries Policy (CFP). This Regulation includes the collection and management of biological as well as economic data.

The collection and management of this data is the responsibility of the Member State. DEFRA are obliged to have the 'minimum program' of data collection in place for the UK fishing industry. As the provision of such data by vessel owners is not mandatory in the UK, it is unlikely that the physical collection of such data could be carried out by Fisheries Departments.

Seafish Economics department has a proven record in the collection and analysis of costs and earnings data for UK seafood industry. The 2001 Economic Survey of the UK Fishing fleet carried out by SEAFISH economic staff has been used as the start point for work in this area. Work is underway in 2005. The 2001 fleet economic survey collected management accounts for 448 vessels, covering 25 sectors of the UK fleet.

This document presents draft plans for the collection of costs and earnings data on the UK fleet for 2006. This work will ensure UK Fisheries Departments will have the 'minimum program' of data collection in place for the UK fishing industry. It will be revised to incorporate and "lessons learned" from the experience of carrying out the survey in 2005. One area that has already been incorporated is an extension of the scope of the survey to include a section whereby a separate technical analysis of the results of the survey is to be carried out by the CEMARE institute at the University of Portsmouth as part of the assessment of the quality of the results from the survey.

Project Definition

Project Objective

- To collect and present up-to-date costs and earnings information on the UK fishing industry to meet the requirements of the 'minimum program'.

Project Scope

It is proposed to increase coverage of this survey and include some sectors omitted from the 2001 survey. Twenty-five sectors of the fleet were surveyed in 2001.

The pelagic sector will be included in the survey, despite difficulties in obtaining information from this sector in the past. Previous surveys largely excluded the inshore sector. This increasingly important sector will be examined in greater detail. Scottish-based vessels between 8-10m, and the English Channel under

10-metre fleet were surveyed in 2001. The remainder to the under 10-metre fleet based in England and Wales will also be included in this survey (providing necessary vessel information is available)

We propose following a similar approach to that employed for the 2001 survey. Costs and earnings information will be presented at two levels.

- **EU Data Collection Regulation segmentation.** Appendix one presents segments where an adequate number of vessels exist to be able to survey, with aggregation having taken place for some segments with less than 5 vessels.
- **Seafish segmentation.** Costs and earnings information will also be segmented and presented in a publication with a similar format to the 2001 Economic Survey of the UK Fishing Fleet. Vessels will be grouped based on main fishing method, vessel length, and geographic location. **This is not included in the project cost.**

Taking into account those vessels that have left the fleet and the additional vessels we plan to survey in the Pelagic and less than 10 metre English and Welsh fleet, a sample of 450 vessels is estimated. This is similar to the number of vessels surveyed for the 2001 survey.

It is proposed to collect information on income, production and fixed costs (fishing and owner costs), and investment asset (insurance value). Although not collected for the 2001 survey, information on financial gearing will be gathered. Vessel characteristics and employment data will also be presented. Parameters required for the 'minimum programme' are provided in Appendix two. Prices, species, fleet and effort data will be collected by UK fisheries Departments as part of the information required to be collated under Modules C, D and E of the Data Collection Regulations.

The primary focus of the survey will be to source management accounts. Information on vessel characteristics will also be sought. Industry opinions will not be investigated. The Project team, DEFRA and SEERAD will work together throughout the duration of the project to ensure results are representative of the UK fishing industry.

Method of Approach

Seafish Economics staff are experienced in undertaking surveys of the UK seafood industry and would carry out the work in house. Good local contacts, combined with robust survey methods and an established database will deliver the findings required by DEFRA.

The methodology can be split into seven main stages: -

1. Agree scope, objectives and contract with client.
2. Building industry support (meetings with key industry representatives).
3. Survey preparation (includes and preparation of a database, PR activity, survey planning, interview and mailing preparation).
4. Carry out survey (includes interviews and mailing).
5. Data input and analysis.
6. Technical review of data and analysis by 3rd party - CEMARE
7. Produce database and summary report.

Stage one will be carried out in close consultation with the client. Building industry support (stage 2) will involve meeting key industry contacts. Extensive consultation with PO's, vessel agents, UK fishing federations, accountants, and local fishermen representatives will be carried out to promote and foster support for the project. Experience suggests that gaining the support of local industry representatives is critical to achieving a good response rate, and the ultimate success of the project.

Stage three will consist of planning what sectors and areas of the country will be targeted when. Contact lists will be prepared in consultation with the fishing industry. Questionnaires and interview plans will be trialed with fishermen prior to launch. The structure of the final output requirements will be drafted at this early stage. Considerable PR activity in the trade and local press will be carried out prior to the survey phase commencing.

Stage four will consist of two approaches - a targeted mailing and face-to-face interviews. Telephone interviewing may also be carried out where required. Seafish staff are experienced in surveying the catching sector, and have excellent grass roots contacts gained via a number of recent projects. Previous expertise of this type of work will ensure that the most efficient survey techniques are employed to source the necessary information. A range of local contacts will be used to complete this stage as efficiently as possible. Interviewing will be conducted mainly face-to-face, although when it is difficult to meet an owner or skipper a telephone interview or a postal questionnaire may be used. Flexibility is important (especially when dealing with the catching sector). Previous experience suggests that many interviews can only be arranged when out surveying. It is anticipated that the majority of interviews will be carried out on Thursdays, Fridays and Saturdays.

Stage five includes data input and analysis. Data will be analysed and compared to previous outputs. Where necessary, follow up investigation with fishermen will be carried out.

Stage 6 will involve the separate technical assessment of the results of the survey to be carried out by Centre for the Economics & Management of Aquatic Resources (CEMARE), at the University of Portsmouth. The staff there have extensive experience of detailed economic assessments of various fleets, ports and fisheries. They will assess the accuracy and validity of the results obtained.

At stage 7, an anonymised database and agreed summary tables by the Data Collection Regulation fleet segments will be provided to DEFRA/SEERAD.

Project Deliverables

Project deliverables are:-

- Anonymous database and summary tables by segment (based on minimum programme requirements).
- Short report interpreting the outputs of the survey. This will include a summary of the methodology, scope, objectives, and precision levels achieved, as well as the quality control analysis carried out by CEMARE as an external review of the quality of the results.

Constraints

- **Interviewee availability:** - Previous experience of surveying the fishing industry suggests face-to-face interviews are the best means to obtain information. As the majority of vessel owners spend a large part of their time at sea, availability for interview will be limited. Postponement of interviews at short notice and follow-up visits can be expected. This constraint has been built into the survey plan.
- **Time:** - An estimated 160 days are allocated to this project, carried out over an eight-month period.

Interfaces

- UK fisheries departments
- CEMARE
- Fishing industry stakeholders

Estimated Costs and Resource Requirements

Seafish Team:

The project will be led by an Economist from Seafish (exact persons to be named nearer the time of the project), who will be supported by Seafish Economics colleagues who will also have experience in carry out survey work on both the catching and processing sectors, and staff from other Seafish departments will also assist where necessary. In addition, Jim Watson will be consulted during the project.

Project Team Rates

Due to the size of the project, and because the client is a public body we are able to offer reduced day rates. A daily rate of £400 per day has been used in providing an estimate of overall costs. These rates include VAT.

Overall Costs

The staff and days involved in each of the main stages and tasks are identified below: -

	Total Days	Fees (£)	Estimated Expenses (£)	TOTAL
Agree scope, objectives and contract	3	1,200.00	-	1,200.00
Building Industry Support	10	4,000.00	1,850.00	5850.00
Survey Preparation	20	8,000.00	-	8,000.00
Survey	64	25,600.00	15,550.00	41150.00
Data Input and analysis	30	12,000.00	-	12,000.00
CEMARE review of data and quality analysis	10	4,000.00	-	4,000.00
Draft outputs and review with client	13	5,200.00	-	5,200.00
Prepare final outputs	5	2,000.00	-	2,000.00
Quality control	5	2,000.00	-	2,000.00
TOTAL	160	£64,000	£17,400.00	£81,400.00

Fees and estimated expenses are shown including VAT.

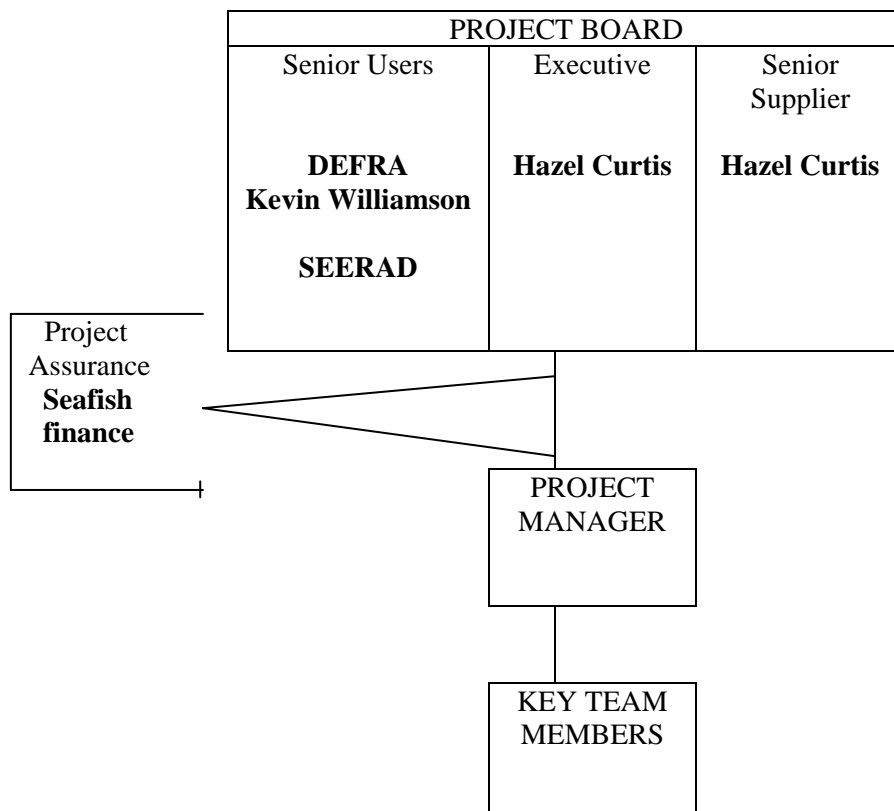
Assumptions

- Co-operation of fishing industry bodies and representatives will be secured.
- 50% EU funding will be secured (with additional funding from Fisheries Departments to be confirmed).
- Temporary staff or consultants may be hired to assist with the interviewing, data input and analysis, within project budget constraints.
- Staff resource within UK fisheries departments will be made available especially during the contact list and data validation stages.
- A Project Board will be set up including representatives of UK fisheries departments.
- SEERAD and DEFRA will allocate a suitable member of staff as a 'key point of contact', who will be an active participant on the Project Board.
- Regular liaison between the Project Manager and Project Board will be established.
- Relevant statistical information (e.g. vessel lists) will be made available from UK fisheries departments within agreed timescales.

- Co-operation of skippers and vessel owners, processors, and industry bodies will be secured.
- A sufficient number of questionnaires will be returned and interviews carried out, to allow meaningful analysis.

Project Organisation Structure

The project organisation structure is outlined in the diagram below:



The Project Board represents at managerial level the User and Supplier interests of the project. The Project Board members are the decision-makers and are responsible for the commitment of resources to the project such as personnel, funding, facilities and equipment.

The Project Manager will undertake day-to-day management of the project. Team Members are staff from the Economics department of Seafish. It is possible some of the survey work will be sub-contracted to a third party.

Initial Project Plan

The Product Flow Diagram (Appendix three) illustrates the main interim products required in the study and the dependency relationships between them.

A Gantt chart (Appendix four) shows the timings of main stages of the project.

Project Controls

The project manager will monitor progress of tasks against the Gantt chart and spending against budget. Team members will report to the project manager any problems so that steps can be taken to rectify any delay or anticipated overspend.

Exception Process

The Client and the Project Manager will agree any material changes to the approved plan in writing. The following tolerance levels are proposed: -

- Cost: +5% / -10%
- Time: +2 weeks / -4 weeks

The Project Manager will inform the client if costs or timing falls out-with these bands.

Risk Log and Contingency Plans

Risks associated with the project and possible counter measures are detailed in appendix five.

Quality Review

The EU Regulation states that precision levels of each parameter and for each segment must be achieved. Precision levels are set to plus or minus 25% for a 95% confidence interval. *Measuring precision levels for each parameter does cause concern. This is an area that requires further discussion.*

Funding for the 2001 Economic Survey of the UK Fishing Fleet was set based on agreed precision levels of plus or minus 25% for a 95% confidence interval. SEERAD carried out a data check for accuracy at MAGP level. This validation involved checking the characteristics of the vessels of those owners who had taken part in the survey compared to the characteristics of the vessel segment population. Survey data were analysed using SPSS. Precision levels achieved for a 95% CI by MAGP segment were: -

Beam Trawl	18%
Demersal, Seine, nephrop trawl	16%
Lines & nets	23%

Shellfish Fixed	23%
Shellfish Mobile	29%

Appendix One: Basic segmentation of vessels for Capacities (MP)

Vessel length		< 12 m	12 - < 24 m	24 - < 40 m	>= 40 m
Type of Fishing Technique					
Mobile Gears	Beam trawl	XXXXXXXXXX			
	Demersal trawl & Demersal seiner				XXXXXXXXXXXXXXXXXX
	Pelagic trawl & seiners	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXXXXXXXXXX	
	Shellfish dredges				XXXXXXXXXXXXXXXXXX
	Polyvalent				XXXXXXXXXXXXXXXXXX
Passive Gears	Gears using hooks	(1)		XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX
	Drift & Fixed nets			XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX
	Pots & traps			XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX
	Polyvalent			XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX
Polyvalent Gears	Combining mobile & passive gears				XXXXXXXXXXXXXXXXXX

(1) This segment is aggregated for all passive gears

Note 1: If a gear category contains less than 10 vessels, then the cell can be merged with a neighbouring length category to be specified in the National Programme

Note 2: If a vessel spends more than 80% of its time using a specific type of fishing technique, it should be included in the corresponding segment

Note 3: Length is defined as Length Over All (LOA)

Note 4: XXXXX - Not suitable to survey due to small number of vessels.

Appendix Two

Appendix XVII (Section J)

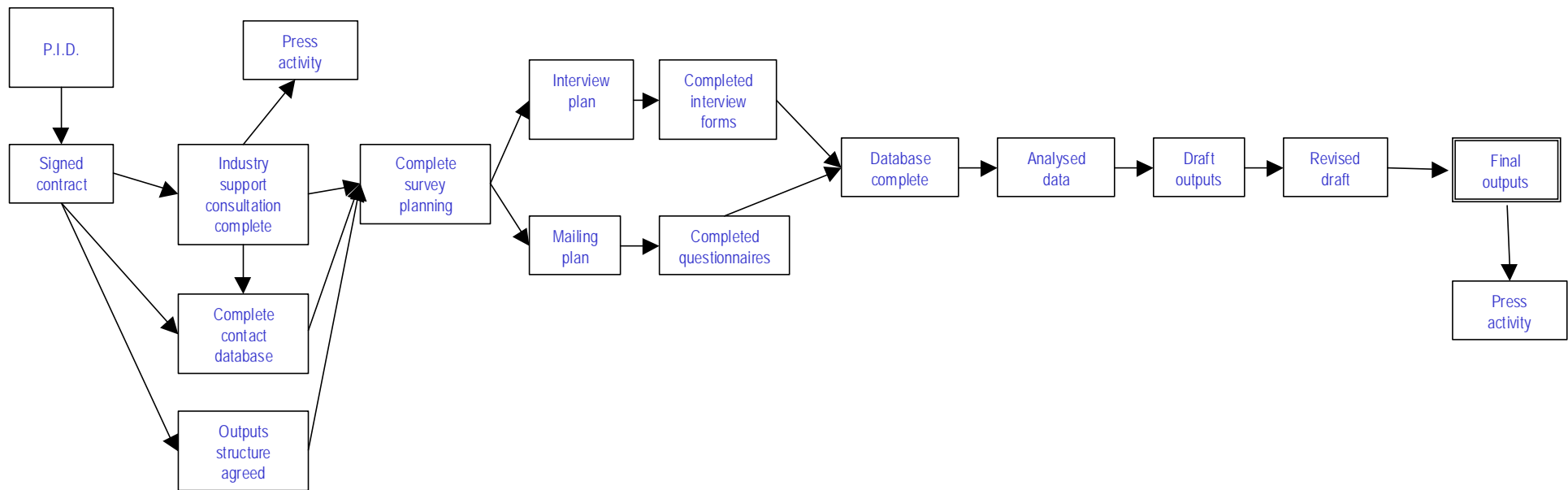
Economic information per fleet segment as defined in Appendix III (MP)

General description	Minimum programme 1st priority (annual)	Responsible for Collecting
Income (turn-over)	Total and Per species	Seafish – survey
Production costs: -Crew (include social cost) - Fuel - repair and maintenance - other operational costs	Total and Per production cost category	Seafish – survey
Fixed costs	Average cost, Calculated from investment	Seafish – survey
Financial position	Share of own/foreign capital	Seafish – survey
Investment (asset)		Seafish – survey
Prices / species (*)	Value, tonne	Defra to supply data as per Module E of DCR
Employment	Full time/ part time/FTE	Seafish, Defra & SEERAD data
Fleet	-No -GT -KW -age -gear used	Defra to supply data as per Module C of DCR
Effort	Relevant unit accounting for technology and time	Defra to supply data as per Module D of DCR

(*) Quarterly basis everywhere. Aggregated on a regional level 3 in Mediterranean in Appendix I

Appendix Three

EU Data Collection regulation
Economic Survey of the UK Fishing Fleet
PRODUCT FLOW DIAGRAM



Appendix Four – Outline Gantt Chart

EU Data Collection Regulation Economic Survey of the UK Fishing Fleet	2006				2007			
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Stage 1 - Client Briefing Client briefing (agree scope and objectives) produce detailed project plan								
Stage 2 - Building industry support Interview Industry Representatives								
Stage 3 - Survey Preparation Survey Planning, interview and mailing preparation PR activity, prepare database								
Stage 4 - Industry survey Includes interviews and mailing								
Stage 5 - Data input and analysis Data input Data quality checking								
Stage 6 - Final Report Draft report and review with client Preparation of Final Report								

Appendix Five

INITIAL RISK LOG

Risk No.	Author	Description	Likelihood	Severity	Counter measure(s)	Owner	Status
1	JW	Risk that 50% EU funding will not be secured.	Unlikely	Severe problem	Assess if a smaller scale study is feasible. Seek alternative sources of funding.	JW	Open
2	JW	Risk that additional match funding will not be secured from DEFRA	Possible	Severe problem	Review scope of project, and assess if a scaled down study is feasible. Seek alternative sources of funding.	JW	Open
2	JW	Risk that Industry representatives will not support the project proposal	Unlikely	Medium	To ensure industry buy-in industry representatives and key stakeholders will be consulted from the outset.	JW	Open
3	JW	Risk that an acceptable level of returns will not be received from vessel owners.	Possible	Severe Problem	Learning from previous surveys will be applied. Excellent grass-roots contacts and PR activity will reduce risk.	JW	Open
4	JW	Risk that the quality of data and response rate are not high enough to provide data of sufficient accuracy for the segments required.	Possible	Severe problem	A Project Board Group will be set up, along with consultation with 'industry experts' to ensure returns are representative, and statistically valid.	JW	Open

Likelihood: likely – possible – unlikely

Severity of problem: severe – medium - small



DREW ASSOCIATES SEA ANGLING SURVEY

Drew Associates have been commissioned by Defra to undertake economic research into recreational sea angling. Part of this involves a survey of sea anglers attitudes and preferences about different aspects of sea angling. Please complete the following in accordance with the instructions for each question. Thank you for taking part.

A. GENERAL QUESTIONS

1. Can you tell me on average how many days you went sea angling in England and Wales in the last 12 months? (Circle one answer)

Everyday	1	8 days per year	7
4 or 5 days per week	2	6 days per year	8
2 or 3 days per week	3	4 days per year	9
1 day per week	4	2 days per year	10
2 days per month	5	1 day per year	11
1 day per month	6	Don't know	12

2. What type of sea fish do you mainly catch? (Circle one answer)

Flat white fish (e.g. flounder)	1	Round white fish (e.g. cod and bass)	2
Oil rich fish (e.g. mackerel)	3	Exotics (e.g. fish not normally caught around the British Isles)	4

**3. What species of sea fish do you mainly target and catch?
(For target: list five in order of preference e.g. 1, 2, 3 etc..)
(For catch: list up to five in order of number of fish caught, e.g. 1 for most frequently caught, 2, 3, etc. to 5 for least fish caught)**

	Target	Catch		Target	Catch
Bass			Dab		
Cod			Flounder		
Conger eel			Plaice		
Silver eel			Sole		
Dog fish			Ray / Skate		
Mullet			Turbot		
Haddock			Mackerel		
Huss			Bream		
Ling			Shark		
Pollack			Smooth hound		
Whiting			Pout		
Coley			Wrasse		
Tope			Gurnards		

4. Do you <u>mainly</u> fish from the shore/pier or a boat (Circle one answer)			
Shore / pier	1	Own / Friend's Boat	3
Charter boat	2	Equally shore and boat	4

5. Can you tell us about the fish you catch in the waters where you now fish (Please circle one box for each statement)					
a. Over the last 5 years the number of fish I catch has:					
5. Increased significantly	4. Increased	3. Stayed the same	2. Decreased	1. Decreased significantly	0. Don't know
b. Over the last 15 years the number of fish I catch has:					
5. Increased significantly	4. Increased	3. Stayed the same	2. Decreased	1. Decreased significantly	0. Don't know
c. Over the last 5 years the size of fish I catch has:					
5. Increased significantly	4. Increased	3. Stayed the same	2. Decreased	1. Decreased significantly	0. Don't know
d. Over the last 15 years the size of fish I catch has:					
5. Increased significantly	4. Increased	3. Stayed the same	2. Decreased	1. Decreased significantly	0. Don't know

6. How long do you spend travelling from home to the usual shore or pier where you usually fish; or to the boat embarkation point if you usually fish from a boat? (Circle ONE answer or specify the time if greater than 2 hours)			
1 to 10 minutes	1	40 to 60 minutes	5
10 to 20 minutes	2	60 to 90 minutes	6
20 to 30 minutes	3	1½ to 2 hours	7
30 to 40 minutes	4	If more than 2 hours please specify	

7. IF YOU FISH MAINLY BY BOAT: How long do you usually spend in the boat from the embarkation quay to the "fishing mark"? (Circle ONE answer or specify the time if greater than 2 hours)			
1 to 10 minutes	1	40 to 60 minutes	5
10 to 20 minutes	2	60 to 90 minutes	6
20 to 30 minutes	3	1½ to 2 hours	7
30 to 40 minutes	4	If more than 2 hours please specify	

8. Do you usually travel to your usual fishing point or area by (Circle ONE answer)			
Car	1	Motorcycle	4
Bus	2	Cycle or walk	5
Metro or train	3	Other: (please specify)	

9. How much do you spend **on average on transport costs per trip** (including harbour dues, boat fuel and car parking charges if applicable) to travel from your **home** to your **usual fishing point or area**.

Travel from home to shore or pier	
Car park charge (if applicable)	
Charter boat fee	
OR boat fuel, harbour charges, and boat launch fees	
Total cost in £s	

10. How many fish do you catch, **on average, per trip** in your usual fishing area; and how many do you retain for home consumption

Number of fish caught per trip "on average"	
Number retained for home consumption	

11. In the last 12 months how many days did you spend sea angling at **each of** the following locations?

Location No.	Location name	Number of days sea angling?	Tick if more than 50 miles from home
1	Cornish (incl. Isles of Scilly) & North Devon coast (from Barnstable to Saltash)		
2	South Devon coast (from Plymouth to Lyme Regis)		
3	Dorset, Hampshire & Isle of Wight coast (from Lyme Regis to Hayling Island)		
4	Sussex coast (from Thorney Island to Rye)		
5	Kent coast (from Dungeness to South Bank of Thames Estuary)		
6	East coast (from North Bank of Thames Estuary to Immingham)		
7	Yorkshire & Humber coast (from Immingham to Tees Bay)		
8	North East coast (from Teeside to Scottish Border)		
9	North West coast (from Scottish Border to Welsh Border)		
10	North Wales coast (from Welsh border to Aberystwyth)		
11	South Wales coast (from Aberystwyth to Porthcawl)		
12	Bristol Channel (from Porthcawl around to Ilfracombe)		
13	Outside England and Wales		

12-15. CHOICE QUESTIONS

It is possible to travel to an alternative location to fish, where different species can be caught, and where the number of fish caught per day, and the size of fish caught, are greater than those in your current or usual fishing area. However, this involves an additional cost to you (e.g. extra transport, accommodation costs, equipment) per day.

A range of such possible scenarios or Alternative is given below. Please look carefully at each pair of Alternatives and indicate which you would choose. If you would not choose either Alternative then you should circle the "Would not choose either" option.

For example, look at the two alternatives below.

If you were not concerned about catching a different species of fish from those that you usually catch, and were also not so bothered about the number of fish caught, but you would like to catch larger fish, and were happy to pay a little more than you currently pay for your usual day's fishing trip, you might choose ("tick") Alternative A.

If catching different fish species appeals to you, and more fish, but you were not so concerned about fish size and were happy to pay a lot more for a day's fishing trip, you might choose ("tick") Alternative B.

If you are quite happy with what you usually catch on your day fishing trip, or you did not want to spend anymore money, then you should "tick" "Would not chose either".

	Alternative A (16)	Alternative B (11)	
Fish species of greater interest to you than those in your local home area	No	Yes	
Average number of fish caught per day	2	6	
Percentage increase in fish size	25% increase	0%	
Additional amount that you would have to pay per day	£5	£50	
Preference (TICK ONE OF THE THREE BOXES ON THIS ROW)			Would not choose either

Looking at each pair of alternatives, which Alternative do you like best in each set?

12A.	Alternative A (6)	Alternative B (3)	
Fish species of greater interest to you than those in your local home area	Yes	No	
Average number of fish caught per day	2	4	
Percentage increase in fish size	50% increase	50% increase	
Additional amount that you would have to pay per day	£5	£20	
Preference			Would not choose either

13A.	Alternative A (18)	Alternative B (13)	
Fish species of greater interest to you than those in your local home area	No	No	
Average number of fish caught per day	8	6	
Percentage increase in fish size	0%	100% increase	
Additional amount that you would have to pay per day	£5	£20	
Preference			Would not choose either

Looking at each pair of alternatives, which Alternative do you like best in each set?

14A.	Alternative A (20)	Alternative B (25)	
Fish species of greater interest to you than those in your local home area	No	Yes	
Average number of fish caught per day	4	2	
Percentage increase in fish size	100% increase	50% increase	
Additional amount that you would have to pay per day	£5	£50	
Preference			Would not choose either

15A.	Alternative A (2)	Alternative B (12)	
Fish species of greater interest to you than those in your local home area	No	No	
Average number of fish caught per day	2	8	
Percentage increase in fish size	0%	50% increase	
Additional amount that you would have to pay per day	£10	£10	
Preference			Would not choose either

16. Which ONE of these reasons best explains the reasoning behind the choices you have just made? (CIRCLE ONE)	
a. I wanted to minimise what I would have to pay.	1
b. I would really like to catch more fish.	2
c. I would like to catch larger fish.	3
d. I chose the alternatives that offered me the best value for money.	4
e. Most of the time I was just guessing.	5
f. Other (specify below)	6

C. EXPENDITURE QUESTIONS

17. Can you tell us how much you spent **personally** in **England and Wales** on sea angling during the **last 12 months under** these different categories? (Where sea angling was not the main purpose of a trip – e.g. family holidays – only include the additional costs incurred on such trips)

Item	Within 50 miles of your home (including mail order, internet)	More than 50 miles from your home
Fishing rods & reels (incl rental), fishing clothing, hooks, line and bait		
Transport to coast (incl car park)		
Charter boat fees		
Port fees for own boat		
Boat/trailer purchase, accessories, maintenance and fuel		
Food and drink on fishing trips		
Accommodation		
Insurance on boat, trailer and equipment		
Fishing magazines and books		
Competition fees		
Other (please specify)		

18. Think about the experience you have had undertaking recreational sea angling during the last 12 months, and what it is worth to you to have this experience. Do you think your experience is worth more than you paid? **(please circle one)**

1 YES

2 NO

If **YES** what is the most you would certainly pay, over and above what you spent last year, before you would stop going fishing in the areas you now use, i.e. you are very confident you would pay this extra amount?

I would pay £ _____ / year in addition to what I already pay to have the same recreational angling experience I had during the last 12 months.

D. PERSONAL QUESTIONS

19. Are you normally resident in England and Wales? (Circle one answer)	1. YES	2. NO
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20. Do you live within 25 miles of the coast? (Circle one answer)	1. YES	2. NO
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21. How many years have you engaged in sea angling?	
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22. How did you get involved in sea angling?	
--	--

23. Are you a member of a sea angling club? (Circle one answer)	1. YES	2. NO
--	--------	-------

IF YES

24. How many English and Welsh sea angling clubs are you a member of ?	
---	--

25. Do you think that sea angling trips have any effects on your health? <i>(Please circle one box)</i>					
5 Significant positive effect	4 Some positive effect	3 No effect	2 Some negative effect	1 Significant negative effect	0 Don't know

26. Into which of the following age groups does your age fall?			
16-24	1	45-54	4
25-34	2	55-64	5
35-44	3	65+	6

27. Into which of the following income groups does your total annual household income (before tax) fall?			
£1 to £9,999	1	£40,000 to £49,999	5
£10,000 to £19,999	2	£50,000 to £59,999	6
£20,000 to £29,999	3	£60,000 to £69,999	7
£30,000 to £39,999	4	£70,000 plus	8

28. Gender:	1. Male	2. Female
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FOR OFFICE USE ONLY

Location of interview	
Date of interview	
Interviewer	

PROJECT SCHEDULE

Terms of Reference

1. The research will examine the economic importance of recreational sea fishing for key local areas, and the economy as a whole, as well as the value of the 'experience' to anglers. It will also look at the trends and future prospects in the sector.

Background

2. Recreational sea fishing is increasingly felt to be an important sector of activity from environmental, social and economic perspectives. Its biological impact on otherwise hardpressed fish stocks is thought to be small, yet some have argued that its economic contribution to some coastal communities is now greater than that of commercial fishing. However, at a time when many coastal communities are faced with important structural change, little firm information currently exists on the characteristics and contributions of this sector to society.

Research Objectives

3. The research should aim to answer the following questions:

a) Where are the important local centres for sea angling in England and Wales located? Measures of relative importance will be presented in terms of the level of participation and volume of catches. The centres will also be described and compared in terms of the type of sea angling operations and the species caught.

b) What is the economic contribution of recreational sea angling in England and Wales? This will be considered at the level of key local centres, and across the economy. It will look at direct expenditure of anglers on the activity itself, at expenditure on food, accommodation etc, and will estimate multiplier effects in the local economy. Measures of economic contribution will be net of any costs of sea angling, and the relative magnitude will be considered in comparison with other similar tourist activities.

c) What is the value of the experience to anglers? Willingness to pay of the anglers for satisfaction gained from angling, over and above expenditure on the activity, will be estimated.

d) Are there any side effects of sea angling? This will include any social and cultural impacts that may be relevant to policymaking in a sustainable development context. It will also consider displacement effects, both in terms of alternative activities and expenditure, and between locations.

e) What are the key trends in the sector? Trends will be identified and their main determinants analysed. In particular, factors that influence the value of the angling experience will be ascertained. These may include numbers of fish caught, size of fish, opportunities to view other marine wildlife, and other factors.

f) What are the future prospects for the sector? The context of continuing structural change in the commercial sea fishing sector and concerns about levels of fish stocks must be borne in mind when examining this.

Methodology

4. The Researcher will conduct the project outlined in the tender document submitted for the project by the Researcher in March 2003. This will involve:

a) Literature review. The methodology and results of previous studies into the economics of sea angling will be reviewed, as well as Contingent Valuation and travel cost literature relating to on-shore angling.

b) Characterisation of structure and location of sea angling. This will be primarily done through discussions with the NFSA and its members.

c) Omnibus face-to-face survey of England and Wales households. This will be designed to elicit information about the size and structure of the sea angling population. It will provide the following information:

Age, sex, social class, location

Days spent on shore angling in the past year

Days spent on vessel angling in the past year

Whether member of an angling club

RSGB Omnibus will carry out the survey, with a sample of 1700 adults per week for six weeks. The 10,200 sample will be stratified into coastal and non-coastal, with a higher sampling intensity in coastal areas. A 3% sample of anglers is expected (300).

d) Postal survey of angling club members. This will involve a mail-out to a random sample of NFSA and affiliated club members. The survey will obtain information from 400 respondents on:

Duration and frequency, location and characteristics of trips

Data on catch, species, trends

Contingent valuation estimates of benefits from sea angling

Categorised expenditures on suppliers including durables, travel, accommodation and location

Frequency and duration of angling trips in the past 12 months

Length of time of involvement in the sport and changes in number of trips over time

Intentions for the future about numbers of trips
Demographics

e) Focus groups. Two focus groups with sea anglers will be held to optimise questionnaire design and develop the most suitable bid mechanism for the CV questions and the most appropriate structure for the expenditure questions. They will also be used to trial the questionnaires.

f) Survey and analysis of anglers at case study locations in England and Wales. Face-to-face interviews with 500 sea anglers at 8 locations (to be decided) will be held. A random sample, stratified between boat and shore anglers will be used to ask about willingness to pay and expenditure. Willingness to pay will be estimated from both a travel cost model and stated preference method. The impact of changes in the type and intensity of fishing on fish stocks will be described, as well as the potential for substitution of sea angling for commercial sea fishing activities.

g) Survey of economic agents. The names of the major businesses will be indicated by the angler surveys. A sample of 100 businesses will be sent a postal survey, which will be followed up with a telephone interview. This will establish turnover, value added and employment characteristics and views of key suppliers on future prospects for the sector. The focus will be on business that derive a high proportion of their turnover from sea angling.

h) Consultations with relevant stakeholders. Discussions will be held with relevant DERFA staff, and letters written to representatives of the main stakeholder organisations. Structured interviews will be used to follow up the latter if necessary.

EXECUTIVE SUMMARY

Background

Existing information about the economic characteristics of sea angling in England and Wales is sparse. This study was established to provide more detailed economic information on sea anglers and sea angling in England and Wales. Specifically it was set up principally to identify the important local centres for sea angling, its economic contribution both nationally and more locally, and the value of the experience to anglers.

Methods

Information was obtained from a number of surveys, the main ones being:

- Household Omnibus survey, in order to estimate the number of people engaged in sea angling in England and Wales (10,200 households interviewed);
- Angler survey, in order to understand better their activities; the utility associated with the activity and their expenditure patterns (900 anglers surveyed, partly face-to-face and partly by postal survey of members of angling clubs); and
- Business survey of suppliers to sea anglers in order to estimate the impacts on employment and incomes from anglers' expenditure (130 businesses surveyed).

We also took four contrasting case study locations – Weymouth, Whitby, Hastings and Anglesey – in order to estimate the impact of sea anglers' expenditures on the local economies. The business surveys were concentrated in these areas.

Location, participation and activity

Sea angling is practised all around the coast of England and Wales. The wide ranging geological makeup of the coastline with its rivers, estuaries and sheltered ports, along with the differing seas and currents provides a huge and diverse range of options for sea anglers. The south western and western shores are affected by the warm Gulf Stream, whilst the English Channel to the south and the cooler North Sea on the eastern coast, all have the potential to provide a large number of species for the sea angler to catch. These are ideal elements, whether sea angling be carried out from charter boat, own boat or from beach or rocky shore.

The household survey indicated that 1.1m households contain at least one member who had been sea angling in the past year. Participation is greatest in the northeast of England, south of England, and Wales. 54% of sea anglers fish mainly from the shore, 23% from private boat and 22% from charter boats. The mean number of days angling per household per year was 11.3 days but 24% indicated that they fished on only one day in the last year. Some dedicated people fish most days. Shore anglers fished more often (13.6 days) than charter boat anglers(4.96 days) or own boat anglers(12.41 days).

Participation is spread across all social classes with 6% of AB households having a fishing member as compared with 5% in C1C2 and 4% in DE. AB households fish less (9.1 days per year) and use

boats more (only 41% are shore anglers) as compared with DE where 59% are shore anglers but they fish on average 15.7 days per year.

We obtained more detailed information on the activities of sea anglers from face-to-face and postal surveys. It is important to note that face-to-face interviews are biased toward the more active angler because their chance of being interviewed is higher. In these interviews, shore anglers fished for 65 days per year on average, charter boat anglers for 31 days, and own boat anglers for 47 days. In the aggregation of economic data we accounted for different activity levels by converting all data to a per day basis.

Most anglers are male (96.7%) and had been fishing for 25.7 years on average. 55% of anglers had incomes in the £10,000-£30,000 range. but 17% had incomes exceeding £40,000. Anglers catch, on average, between 5 (shore anglers) and 13 (boat anglers) fish per trip and retain 32-39% of their catch. Most anglers had observed a trend decline in the number of fish caught and their size. This was more marked over a 15-year period but there was still a decline over the last five years.

Fifteen percent of respondents had been sea angling outside England and Wales in the last year. Anecdotal evidence from the surveys indicated a growth in sea angling tourism by UK nationals (to the Channel islands, Ireland, USA, Africa) where fishing opportunities were better. At the margin there was some substitution of this for domestic sea angling but we were unable to quantify the scale of this trend. There was also evidence of a growth in sea angling as a corporate 'leisure' activity.

Value of the experience to anglers

The great majority of those interviewed perceived a positive benefit to their health from sea angling. Anecdotal evidence from the surveys suggested that this was related to the sense of relaxation and peace of mind that angling engendered.

Consumer surplus benefits from sea angling were found to be considerable. Consumer surplus (mean value) on existing annual sea angling activity varied from £381 per shore angler to £886 per own boat angler. When aggregated over sea fishing trips for the whole country the annual aggregate net benefit based on the mean consumer surplus estimates was £594 million.

The consumer surplus per angling day was found to be between £68 and £105 using the travel cost method (TCM). The basic TCM estimated an average consumer surplus of £26 per day per shore angler, £42 per day per charter boat angler, and £104 per day per own boat angler. An annual aggregate value can be obtained by multiplying each day consumer surplus value by their respective numbers of households and by the respective number of sea angling days (13.62; 4.96; 12.41) of these households from the Omnibus survey described in Section 3. This produces an aggregate consumer surplus value of £216 million for shore anglers; £50 million for charter boat anglers; and £336 million for own boat anglers; that is: £602 million in total.

The total value of the angling experience can be measured by summing the actual expenditures per day and the estimates of surplus¹. *Using the full range of estimates*, we derived a total value for the angling experience of between £600m and £1,300m per year (see Table below right hand column).

Total value of sea angling

	Expenditure per day angling mean (£/day)	Surplus (range of estimates) (£/day)	Total value (£/day)	Number of households (m)	Days angling (mean per household per year)	Total value (£m)
Shore	21.6	5.7-35.5	27-57	0.61	13.62	224-473
Charter boat	67.7	18.4-90.9	86-159	0.24	4.96	102-189
Own boat	87.9	14.3-108.7	102-197	0.26	12.41	329-635

The choice experiments (CE) estimated the values associated with changes in the diversity and quality of the angling experience. The results indicated positive benefits from an improvement in the angling experience (as measured by fish size and diversity), but benefits from increasing the numbers caught were less clear-cut. All types of angler were willing to pay more for larger fish (£0.22 per 1% increase in size) and for greater diversity in the catch (£11.38 to catch different species from those usually caught). However, only shore anglers were willing to pay for more fish (£0.81 per extra fish caught). Boat anglers had a negative valuation for more fish.

It may be that the skill of boat owners to find stocks (especially those using more powerful charter boats) has reduced the impacts of any loss of total stocks. The satisfaction of boat users is now more concentrated on fish size and ability to target species. Shore anglers have limited options for responding to reduce stocks and the CE results suggest that marginal utility for catch is positive and that an improvement in fish stocks would deliver benefits to this group.

The economic contribution of recreational sea angling in England and Wales

The total expenditure by anglers resident in England and Wales was estimated as £538m per year from 12.7m angler days of activity (see Table below). Around half of the expenditure (52%) was by own boat anglers and reflects the importance of capital expenditures on boats and equipment. Shore anglers were the next most important group (37% of the total expenditure). In terms of first round impacts on the spending translates into 18,889 jobs and £71m in suppliers' income. Multiplier effects were not measured.

¹ We assume that the market value of any fish retained is embedded within the surplus estimate.

National level impacts of sea angler expenditures

	No of households (m)	Days angling (mean per household per year)	Expenditure per household per year (£, mean)	Aggregate expenditure per year (£m)	Employment supported (FTE) *	Income generated (£m) *
Shore	0.61	13.62	295	178	5,652	19.1
Charter boat	0.24	4.96	336	82	3,092	9.0
Own boat	0.26	12.41	1,091	278	10,145	43.3
Total	1.10	30.99	1,722	538	18,889	71.4

Note *first round impacts only

Angling expenditure by visitors (travelling more than 50 miles from home) was £192m (35% of the total). It emphasises the fact that residents not travelling far from home undertake most sea angling. It compares with a total tourism expenditure by UK residents in England and Wales of £22,331m (UKTS, 2002). Angling spending by visitors was just under 1% of total tourism spending.

Conclusions on the contribution of sea angling to the national economy have to be made with care. Cessation of the activity would not result in the loss of 18,890 jobs. Expenditure would be displaced into other directions with corresponding benefits to employment and income. Similarly any comparison of the economic characteristics of sea angling with those of commercial fishing is potentially open to misinterpretation. They represent quite different types of economic activity (a consumer activity by sea anglers, and a natural resource harvesting activity combined with processing, by commercial fishing).

Case studies and local economic impacts

The four case studies illustrated different evolutions of sea angling over time and different contributions of sea angling to local economies. The main factors explaining differences between locations and change over time have been the reliability of obtaining a satisfactory catch and the range of facilities available to support angling. Weymouth was the most competitive location, and angling generated 119 first round jobs. Much of the spend was by local residents, and the contribution on the context of the whole local economy is significant but small. With knock-on effects, it might reach 0.6% of the total 25,900 workforce in the district (Gray, 2003). General tourism is clearly much more important to Weymouth since 38% of employees are employed in distribution, hotels and restaurants.

Whitby and Hastings have been more severely affected by a lack of catch with corresponding negative effects for sea angling and expenditures. Angling on Anglesey supports 46 jobs. Visiting anglers and charter boat operations making an important contribution.

To some extent anglers had adapted as best they can to reduction in stocks by selecting different locations, with own boat and charter anglers using their mobility and skills to search more widely for available stocks. There is a trend towards more powerful, better equipped, charter boats in order to increase the available fishing area and provide a more professional service. Lack of fish was clearly having a negative impact on utility and expenditure in some locations, whereas in others (e.g. Weymouth) this was less obvious.

Side effects of sea angling

Sea angling is now enjoyed across a wide spectrum of social classes throughout the country. Participation rates are highest in the southwest, southeast, northeast and Wales. A broad mix of social classes now pursues sea angling. Participation rates are slightly higher in the AB class (5.6% of households) and C1C2 (5.4%) than DE (4.0%). This compares with 1970 when 40% of sea anglers were skilled manual (C2). Boat activity is higher amongst the AB classes.

Key trends in the sector

The identification of trends through comparison of this study with others is not straightforward because of the different survey methods used. Our survey indicated a population of 1.11m households with at least one sea angler, i.e. an adult population of at least 1.11m. The evidence suggests a stabilisation and possible increase in the sea angling population since the early 1990's.

Activity levels appear to have stabilised in the last decade. In 1970 sea anglers fished on average 36 times a year. This fell to 12 times in 1992 (Dunn and Potten, 1994) and our mean was 11.3. However, there is some variation between types of angling with shore anglers most active (13.62 days per year) and charter boat anglers least active (4.96 days per year).

Seventy-one percent of anglers perceived a decrease in numbers caught over the last 5 years, and 62% a decrease in fish size. To some extent anglers have adapted to changing conditions by switching locations, travelling further and using more powerful boats to extend their search.

Future prospects for the sector

Future prospects for the sector depend mainly on demand, fish stocks and facilities. There appears to be a stable or possibly increasing demand for sea angling with higher income groups being more prominent. Projection of the current trends indicates an increasing use of private and charter boats. There is some evidence of increasing corporate involvement in charter boat angling.

Growth in the sector in England and Wales may be inhibited by lack of fish or poor fish quality. At a national level it is not clear to what extent activity is being constrained by available stocks. The value placed on additional fish caught was negative for boat anglers but positive for shore anglers. This indicates that an increase in the numbers caught would provide benefits only to shore anglers. In some regions all types of angling are limited by low stocks.

In some port locations growth in boat angling is limited by port size and facilities. Yachting is the main competitor for port space over much of the south and west coasts. There does not appear to be any real physical limit on shore angling but these anglers are the most vulnerable to any deterioration in fish numbers.

Overall, the prospects appear reasonably stable, but with considerable regional variation, and vulnerability to an increased switching of activity to locations outside England and Wales.

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1. Introduction

In accordance with Article 6 of Council Regulation 1543/2000, this note sets out the UK programme for 2006 to meet the requirements of the Data Collection Regulation (DCR) as set out in Council Regulations 1543/2000, 1639/2001 and amending Regulation 1581/2004. The UK programme outlined in this document sets out the work the UK authorities intend undertaking directly or in conjunction with bodies and agencies within the UK to meet the requirements of the community minimum and extended programmes for the period 1 January – 31 December 2006.

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The UK intends to meet its obligations under this legislation by:

- The use of registration data obtained by the appropriate authorities on British registered fishing vessels supplemented by the collection of additional data by DEFRA, SEERAD and DARD;
- The collection of data on fishing activity and commercial landings of marine fish into the UK, and by UK fishing vessels landing abroad, using staff in DEFRA, SEERAD, DARD and the corresponding authorities in the Channel Islands and Isle of Man;
- Carrying out surveys of discarding of fish by commercial fishing vessels >10m at sea using FRS, CEFAS and DARD staff;
- Carrying out surveys of the abundance of marine fish using FRS, CEFAS and DARD staff and research and charter vessels;
- Collection of other biological data on marine fish using CEFAS, FRS and DARD staff, and research vessels as appropriate;
- Making surveys of economic data subcontracting, as necessary, work to appropriate agencies such as the Sea Fish Industry Authority;
- Establishing new IT systems, including a server, a database, communications and technical staff to enable the data required under the legislation to be stored, maintained and accessed with appropriate security to ensure against improper access.

Details of the UK's programme of activities are given item by item based on EC Regulations 1639/2001 and 1581/2004. The resources expressly required to fulfil the items within the minimum and extended programmes are set out in Annex 4 and 5, respectively (NB supplied as Excel spreadsheets in the format required by the Commission). Detailed figures for 2006 are provided in the fiches, as requested by the Commission. All costs are expressed in Euros, at current exchange rates. Annexes 1.A to 1.F at the end of this report summarise the key information supplied in Annexes 4 and 5.

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1.1 Co-operation and task sharing between the UK and other Member States

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Landings and effort : The UK will collect and exchange information on landings by foreign vessels into the UK and obtains similar information of landings by UK vessels into foreign ports.

Sampling for length and age (Module H): The UK has set up bilateral agreements with Belgium, Netherlands and Ireland (see Appendix 1 and 2) and is in discussion with Spain to ensure that samples of foreign vessels landing into the UK and UK vessels landing abroad are sampled if required and data exchanged.

Module of evaluation of inputs: fishing capacities and fishing effort

2. Chapter II, C: Collection of data concerning fishing capacities

2.1 Minimum programme

Precision: Data collected to meet the requirements of Regulation 2090/98 will be covered exhaustively for both under and over 10m vessels.

In the UK the Registry of Shipping and Seamen (RSS) and the corresponding registries in the Channel Islands and Isle of Man already collect and maintain information on registered fishing vessels including their gross tonnage and their maximum continuous engine power as defined in Council Regulation 2930/86, as amended by Council Regulation 3259/94. These data are made available to Fisheries Departments and will be used to meet this requirement for data. These data are already provided to the Commission under Regulation 2090/98 and include information on the age of the fishing vessel.

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Based on information supplied in logbooks, the UK is able to segment the fleet of vessels over 10m according to the sub division set out in Appendix III of the Regulation. There is no statutory reporting of fishing activity by vessels 10 metres and under overall length, and indeed for the UK all 10 metre and under vessels fall within the same segment for MAGP purposes. However, information is collected as part of the registration and licencing process in the UK on the main and subsidiary fishing gear vessel owners intend to use with their vessels for both all under and all over 10-meter vessels. In addition, some vessels under 10m do provide information voluntarily in the form of logbooks, landings declarations and sales notes, and those involved in shellfish fishing activity are also required to report their activity in the form of monthly diaries of activity and landings. Together these sources of data will be used to allow the UK to make estimates of the vessels under 10 metres falling into the active gear segments. Given the large number of vessels in the under 10 metre fleet, many of which fish part time but which collectively represent only a minor proportion of total catch of most species, such estimates will be sufficiently accurate to meet the requirements of the regulation.

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Precision levels for the segmentation of the 10 metre and under fleet will thus be estimated through a comparison of the vessel register and licencing data on intentions to use gear against the other data sources for those vessels where all sources of data are available. This will allow an assessment to be made of the validity of using the register and licencing data to derive segmentations for these vessels. IT is expected that precision level 3 will be achievable, as the licensing system in the UK closely controls the types of activity (and thus fishing gears) that vessels may use.

Economic activity of the 10m and under fleet will be carried out in 2006 as required by the DCR. This data collection will incorporate the collection of catch and effort data as well to help validate the estimates of catch data done for the fleet, as well as providing extra information on the levels of fishing effort expended by this fleet.

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For a number of segments it will only be possible to give a restricted breakdown by length band because there will be fewer than 10 vessels in the breakdown specified. Table 2.1 below summarises which sections of the fleet results will be available for, once aggregations are applied.

Table 2.1 – Analysis of Segments the UK will provide data for after taking into account aggregation

Deleted: Data collected to meet the requirements of Regulation 2090/98 are covered exhaustively.

Segment	10-<12m	12-<24m	24-<40m	>=40m
Mobile – Beam	Y	Y	Y	Y
Mobile – trawl/seine	Y	Y	Y	
Mobile – Pelagic			Y	Y
Mobile – Dredge	Y	Y	Y	
Mobile – Polyvalent				
Passive – Hooks	Y	Y	Y	
Passive- Nets	Y	Y	Y	
Passive – Pots/traps	Y	Y		
Passive – Polyvalent				
Polyvalent – M&P				

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2.2 Extended programme

No additional work is planned under the EP although the UK already has a programme for identifying and recording engine power.

3. Chapter II, D: Collection of data related to fishing effort

3.1 Minimum programme

Precision

Fishing effort and species specific effort will be collected exhaustively for vessels >10m and at precision level 2 for vessels <10m.

Fuel consumption will be collected at precision level 1 as required by /chapter IV, Section J, paragraph 1.c) of Commission Regulation 1639/2001.

The UK will use the data from completed logbooks for the parameters on fishing effort by technique. On the basis that the master is required to complete a separate entry in the logbook when fishing activity has taken place that day, then the UK will be able to report effort on the basis of days fished for active gear fishing.

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The UK will be able to supply information on fishing effort by technique in Appendix VIII on a quarterly basis and according to the level 3 of geographical segregation defined in Appendix 1. These data will be based on the information supplied in the logbook by over 10 metre fishing vessels with estimates for the 10 metre and under fleet produced separately. Similarly information can be provided at the level of specific fishing efforts again based on the logbook data, which are gathered in an exhaustive way. The UK will be able to cross-reference these effort data to the segments defined in Appendix III. The efficient provision of these data and those required under Chapter III, E will require some further development of UK fishery activity database systems, part of which falls under this programme. Table 2.1 above details the segments of the UK fleet data will be available for.

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For the 10 metre and under fleet the estimates of fishing effort exerted are produced at the same time as the details of landings data are collected. As such they are formed from a basis of the knowledge our local data collectors have on their local small fleets and their usual patterns of effort, modified by the actual evidence of the observed fish landings seen during the months of the year. The precision of these estimates will be identified through information collected on effort as part of the proposed separate economic data collection exercise planned for the 10m and under fleet. This will be compared, where possible, with the effort patterns

Information on fuel consumption will be made available on the basis of the economic surveys carried out on the fishing sector and the results will depend on the degree of co-operation obtained. (See comments in section 9 below, on economic data collected under Chapter IV). However, estimates of vessel consumption will be grossed up to overall levels and compared with details from UK oil companies on deliveries of fuel to fishing ports as a quality control measure.

3.2 Extended programme

No additional work is planned under the EP.

Module of evaluation of catches and landings

4. Chapter III, E: Collection of data related to catches and landings.

4.1 Landings

4.1.1 Minimum programme

Landings will be collected exhaustively from vessels

The UK will provide data exhaustively (ie meeting the requirements of precision level 3) on commercial landings for all stocks mentioned in Appendix XII of the Regulation at precision level 3. Figures are based on information reported in logbooks (>10m vessels), landing declarations and sales notes (>10m and <10m). It will provide the information distinguishing the geographical origin of the catches according to the level 2 of geographical disaggregation of Appendix I. In addition the UK will subdivide landings by weight and value according to the segments defined in Appendix III by size category, by quarter and at the level of geographical disaggregation of Appendix I. The UK will provide information on all the landings of its vessels including those into the UK and those into other member states and third countries. The UK will also collect information on landings by foreign vessels into the UK and make these available to the relevant authorities. A pilot study into cod recreational fisheries will be carried out and the results reported to the Commission in 2007 (see 4.3 below). In the case of eels, the UK will report landings from marine sources only.

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In addition, during 2006 work will be carried out using the results of the introduction in the UK during 2005 of a requirement for buyers and sellers of fish at the first point of sale to be registered with UK Fisheries Departments. As part of these requirements, which cover all parts of the fleet and also all purchasers of fish with the exception of those purchasing at first point of sale for private consumption, UK

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Fisheries Departments will start to receive new sources of data on fish purchases. These will be compared with the existing sources of information on fish landings and the resultant information used to assess and improve where found necessary the data on landings by UK vessels. More information on the results of this work will be included in the UK Technical Report on work in 2006 to be provided in 2007.

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4.1.2 Extended programme

No additional work is planned under the EP.

4.2. Discards

Precision: Level 1 will be achieved where possible (see below)

Discard sampling is essential to get complete estimates of the total catch by fishing vessels and hence get unbiased estimates of fishing mortality rates. Generally, the best way to estimate discarding is by sending trained observers on commercial fishing trips, although success depends on weather, the activities and goodwill of the fishing industry, and other uncontrollable factors.

4.2.1 Minimum programme

The UK carries out a fleet based sampling programme. As a result all species listed in Appendix XII are sampled if they form part of the catch. Only occasional sampling of vessels less than 10m will be undertaken by Catch Sampling Officers for Health and Safety reasons. Since, this segment of the fleet contributes only a small proportion of overall landings, this will not bias the results. Under the MP, discard data for the stocks mentioned in Appendix XII of the Regulation will be reported at least annually as required by Chapter III, E(1)b.

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Deleted: Based on existing sampling levels, calculations of precision show that coefficients of variation for the fleet level often exceeded +/- 25%. This arises from the substantial variation in both estimates of discarding and of raising factors between trips. This implies that a very large number of trips would have to be observed to consistently achieve the precision called for in the Regulation. This would involve excessive cost and the UK requests a derogation from the precision requirements on discard estimates as offered in paragraph 2 of E(1)c.

Discard (and retained) data collected during these programmes include:

- Estimates of the quantities discarded and retained for all Appendix XII species* (EU regulation 1639/2001 and 1581/2004) and the majority of all other species encountered.
- Length measurements of the discards and retained catches.
- Age data for specified species (Appendix XII)
- Fleet, gear, fishery and biological information through on board discussion and questionnaire.

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4.2.1.1 Methods

a) England:

All English vessels over 10m are listed and sampled at random on a quarterly basis. Trips are arranged on vessels drawn at random. When on board, all catches are sampled if possible. A single observer is used on most vessels except beam trawlers where 2 staff are needed. Sampling is stratified across quarter, gear type and area with number of days sampling on each strata based on the fleet's activity in the previous calendar year.

Deleted: Discard (and retained) data collected during these programmes include: ¶
<#>Estimates of the quantities discarded and retained for all Appendix XII species (EU regulation 1639/2001) and the majority of all other species encountered. ¶
<#>Length measurements of the discards and retained catches. ¶
<#>Age data for specified species (Appendix XII) ¶
<#>Fleet, gear, fishery and biological information through on board discussion and questionnaire. ¶

Raising Procedure

Having one specified method for sampling and raising the catches aboard commercial vessels is impossible because vessels, deck machinery, gears and crews all have an influence on accessibility of the catch and how it is representatively and randomly sampled. Sub-samples are taken and measured at haul level and raised to the haul based

on total quantities of retained and discarded fish caught. A trip constitutes all sampled hauls added together. Hauls that are not sampled do not form part of the sea trip.

Discard data is raised to fleet level when required by taking the estimated discards caught per hour and multiplying by the fleet's fishing hours.

b) Scotland

The sampling strategy for demersal species is almost identical to that used for landings. It involves the selection of vessels by marine area and gear. However, the sampling temporal stratification is in three month intervals. Using this stratification, observers are sent on approximately 50 different vessels fishing in the North Sea in any one year and 30 in the western region. Every haul is monitored and length frequencies of all discarded species are obtained by sampling 60 kg of discarded material from each haul. Samples of the landed catch are also measured. In addition otoliths are obtained from discarded cod, haddock, whiting and saithe. Raised numbers at age are calculated in the same way as for the landings for these four major species.

Deleted: (FRS) has been sampling discards in the North Sea since 1975.

Deleted: the Marine Laboratory sends

Nephrops discards are monitored by functional unit, e.g. Firth of Forth, Moray Firth, Fladen in the North Sea and the Clyde, Inner Hebrides, and South Minch in the NE Atlantic. Each fishery is sampled quarterly by sending scientific observers on board commercial vessels. About 10 different vessels will be sampled in each year in the North Sea and 10 in the NE Atlantic. While on board, observers monitor every haul and obtain length frequencies of the discard and landings components from sub-samples (at least 200 *Nephrops* are measured from each category of the sorted landings and discards), which are then raised to fleet level. The under 10m boats fishing for shellfish are regularly sampled onshore in Scotland. Although observer sampling is carried out on the *Nephrops* fishery, no direct sampling of the under 10m *Nephrops* vessels is done for demersal species.

Deleted: Scotland (FRS) will monitor

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Monitoring of pelagic species (herring and mackerel will also be continued in both the North Sea and NE Atlantic. Sampling procedures are very similar to those employed in the demersal fishery. For each haul estimates are made of the total catch and of the discards. A sub-sample of the catch (64kgs) and the discards (64kgs) are taken. Information on length, age, sex and maturity is recorded. The sampling effort is spread across the two fisheries with approximately 10 trips being undertaken in a year in the North Sea and 10 in the NE Atlantic.

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c) Northern Ireland

In previous years, it has not been possible for NI to obtain discard samples from the commercial fleet because of a policy of non-cooperation from the industry. The programme proposed for 2006 is therefore completely dependant on obtaining the necessary permission from vessel owners and skippers. With this proviso, under the minimum programme DARD will estimate discard volumes for the following stocks taken by fleets landing significant quantities into Northern Ireland:

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- Herring (VIIa; VIa)
- Haddock (VIIa; VIa)
- Whiting (VIIa; VIa)
- Hake (VI, VII)
- Plaice (VIIa)
- *Nephrops* (VIIa)

Herring discards from Northern Ireland vessels comprise slippage of fish from midwater trawlers targeting herring, and discards from otter trawlers targeting Nephrops and whitefish. No previous estimates of slippage of herring have been made for trawlers landing in Northern Ireland or in the Clyde, and sampling intensity to achieve precision level 1 is presently unknown. Studies will be undertaken as part of the minimum programme. Results will be used to confirm the precision levels that are achievable with these programmes. Any required modifications will be notified in future. If the costs of this element of the programme appear too high relative to the value of the fisheries on these stocks discarding data for targeted herring fisheries in these areas will not be collected.

A fisher self-sampling scheme will be continued using single-rig Nephrops trawlers fishing in Division VIIa to provide random samples of discards containing fish, small whole Nephrops, detached Nephrops heads and other rubbish. From these samples, the weights or numbers of discarded organisms are obtained as a ratio of the expected weight of Nephrops tails removed from the detached heads in the samples. The ratios are estimated over all samples in a quarter and applied to reported quantity of Nephrops tails landed by the fleet to give estimates of total fleet discards. Target sampling rate in recent years has been five samples per month, although current Minimum Programme levels for Nephrops length distribution of one sample per 50 tonnes landed imply 106 samples per year from landings into Northern Ireland.

During 2006, two seagoing observers will be employed to sample flatfish and groundfish species and sampling will be based on stratified random sampling of trawlers that have facilities to take observers and meet the necessary safety standards. Observers will estimate quantities and size composition of all species landed and discarded from observed hauls, and record data for as many hauls as possible within working-time constraints. The additional cost of recording data on non-MP species is not measurable in financial terms as costs are tied to staff salaries and number of days at sea. Reduced precision of discard estimates for MP species is expected if sampling rates are reduced within hauls due to time spent on other species.

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Deleted: using a similar sampling intensity to EU Contract 98/095

Deleted: Methods for observation and analysis of data will be those described in the reports of EC Contract 98/095

4.2.2 Extended programme

No additional sampling is proposed under the EP. However, under the Minimum Programme all species caught are sampled which should allow calculation of discards at the level of disaggregation (quarterly by gear) for the Extended Programme. However, it is not possible to guarantee that all gears listed in Appendix VIII will be sampled in every quarter.

4.3 Recreational Fisheries

The UK has no marine recreational fisheries for salmon and blue fin tuna. A study will be carried out in 2006 to assess the level of landings from the recreational fisheries for cod in areas of the UK coast in ICES Areas IV, VI and VII, and the data reported to the Commission by 31 March 2007. This study will develop further work carried out in 2004 on the economic value of recreational angling as a whole in England and Wales to the UK as a whole. Appendix 3a contains the Executive Summary of the report – the full report is available on request. Similar principles will be followed – the information collected as part of the report on the level of public involvement in sea angling in England and Wales will be expanded to cover the UK as a whole. The methodology used in the report will be followed – i.e. use will be made of contacts with the various sea angling associations that

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Deleted: For salmon, the only recreational fishing is in rivers for salmon returning to spawn. There is no targeted recreational fishing for salmon in marine waters in the North Sea. However, the revised Regulations include cod in Appendix XII and a pilot study will be undertaken to estimate landings of this species in 2006.

exist in the UK (the major one being the National Federation of Sea Angling, which has links to a variety of more local organisations within the UK). In addition, the Sea Angling Conservation Network will be contacted to identify any relevant inputs that their studies into conservation related issues and sea angling at local levels. From these contacts more regional assessments of the levels of catches of cod in the three ICES areas will be summarised in terms of the prevalence of cod catches in the activity of sea anglers along with estimates of the levels of catches, in terms of both total catches and also catches retained (the report itself collected details on the prevalence of cod in catches in terms of numbers of fish but did not estimate the quantity of fish caught).

A full project plan is currently under development, as decisions relating to the most cost-effective method of carrying out the pilot studies being investigated. For information, included at Appendix 3b is the Project Schedule from the study, which contains a summary of the methodology that will be applied. A key factor in the work will be the collection of information from anglers – Appendix 3c contains the questionnaire used for the study. Much of the information requested before will remain relevant – e.g. details on the frequency and type of angling activity (e.g. beach or boat based), the type of fish caught in addition to cod (to allow any targeted or area-specific instance of a fishery for cod to be identified), along with general indicators of whether or not the fishermen consider catches are more or less prevalent at the current time than previously. The economic data on angling will not be collected in as much detail, although any instances of catches being sold rather than retained for personal consumption will be asked about, and the section on personal questions will be dropped. A new section requesting details of the average size of cod caught, in both quantity and/or size, and the details of how frequently cod is caught, and at what times of the year, will be inserted.

Consideration is being given to using the services of the consultancy company that carried out the survey mentioned above, with a view to making the most of their experience of and contacts with relevant bodies in the sector. Expertise also exists amongst UK fisheries research establishments, which will be drawn upon. As such a preliminary financial fiche estimate of £25,000 (€36,499) has been drawn up to cover the costs of involving the consultancy company to do this work. This has been based on the level of costs associated with their earlier work scaled down to cover the fact that the exercise is more targeted than the earlier exercise, even though it is to relate to the UK as a whole rather than just activity in England and Wales. It is possible that staff within UK fisheries departments will carry out this work instead. This will reduce the cost base for this work to around £15,000 (€21,899). A decision on this has yet to be taken and is subject to an assessment of work priorities for 2006/07 to determine the availability of staff time to carry out the work given other work priorities and the position with regards to the availability of funding, both of which will be finalised in the early part of 2006. It is expected that a decision will have been made by the time of the annual bilateral with the UK on the data collection programme in January/February 2006.

4.4 Conversion factors

Conversion factors were provided to the Commission in 2003 and have not changed since then.

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4.5 Collaboration

The UK collaborates with other MS and with third countries to ensure all landings into the UK and of UK vessels abroad are monitored and reported to appropriate agencies. Within the UK, there is consultation to ensure that all relevant fleets are monitored for discards.

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Deleted: In order to ensure effective sampling across all fleets and minimise possibilities of duplication of effort, coordination will be organised through the North Sea and western Regional Planning Groups (RPGs), which will meet in 2004 and 2005. The RPGs should ensure collaboration and discuss where data can be pooled and procedures for improving the sampling programme arranged. Communication will also be held with coordinators of programmes covering foreign vessels landing into the UK and those involved in sampling from UK vessels abroad.

4.6 Discard sampling costs

For full detail see individual fiches – a summary of the costs is included in Annex 1.A

4.7 Eels in other than marine fisheries

The full implications for the UK of the Eel Action Plan are yet to be identified. The UK was represented at the workshop held in Sweden in September 2005 on data collection for European Eel by officials from the Environment Agency and by scientists at Queens University in Belfast who are monitoring the Lough Neagh eel fishery at the moment under an agreement from the Northern Ireland Department of Culture, Arts and Leisure, the government agency in Northern Ireland responsible for inland fisheries. As a result of the workshop, work is underway to review the plans for work in the UK. For example, the work carried out in Northern Ireland for the past 3 years has been under a government-funded contract for such work. The formerly agreed period for this work ends at the end of 2005, and so in light of the possible availability of funding for this work under the Data Collection Regulations, there may be an extension of the contract made.

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Deleted: SGRN recommended that four fleets should be no longer be funded under the MP and these fleets have been moved to the EP. The SGRN recommended that sample collection under the MP should be maintained for the fleets listed below (Table 5.1). However, a number of these fleets have declined to a level where it is no longer possible to provide adequate samples for tuning purposes. It is proposed that in 2005 these fleets will not be sampled and a derogation will be requested. The fleets affected are: ¶

However, there remains a need for some internal discussions in the UK on the final plans for work. This will be carried out over the next few months, and once agreed, plans for work in 2006 and subsequent years will be set up and communicated to the Commission. The scope of work will be those monitoring elements which are routinely performed, and that were deemed as being necessary at the Stockholm meeting, such as length, age, sex ratio, landings, recruitment, silver eel escapement and any other biological data that may be viewed as being worthwhile, but it will also be dependant on whether or not the recommendations of the report are accepted by STECF.

5. Chapter III, F: Collection of data concerning the catches per unit of effort and/or effective effort of specific commercial fleets.

5.1 Minimum programme

Landings and effort data collected under Modules D & E are used to derive CPUE data for a wide number of UK fleets. This data associated with length and age samples from selected fleets has been used as tuning indices by the ICES Working Group on the Demersal Stocks of North Sea, Skaggerak and Kattegat (WGNSSK), the Working Group on the Assessment of Southern Shelf Demersal Stocks (WGSSDS), the Working Group on the Assessment of Northern Shelf Demersal Stocks (WGNSSDS) and the Working Group on Nephrops Stocks (WGNEPH). A review of the utility of CPUE (tuning) data collected by national programmes was carried out by the STECF subgroup on Research Needs (SGRN) in March 2003. The stocks for which sample collection should be maintained under the MP as decided by SGRN are listed below (Table 5.1). The table also shows fleets for which derogations have been agreed by SGRN (December 2004) as a result of a decline in the landings from these fleets.

Deleted: Minimum Programme ¶
 <#>English seiners (ENGSEI), cod IV derogation requested ¶
 <#>UK beam trawlers (UKBT North Sea), sole IV derogation requested ¶
 <#>UK beam trawlers (UKBT North Sea), plaice IV derogation requested ¶
 <#>Scottish Seiners (SCOSEI) west coast, whiting derogation requested ¶
 <#>Scottish light trawlers (SCOLTR) derogation requested ¶
 <#>Scottish Nephrops trawlers (SCONTR) derogation requested ¶
 ¶
 Extended Programme ¶
 <#>English seiners (ENGSEI), haddock IV ¶
 <#>English seiners (ENGSEI), whiting IV ¶
 <#>English trawlers (ENGTRL) haddock IV ¶

... [1]

TABLE 5.1. UNITED KINGDOM CPUE DATA

(note: fleets highlighted and in italics will no longer be sampled under the MP)

North Sea & VIId

Fleet	definition (gear)	species	Recommended funding by SGRN		
			MP	EP	N
Scottish trawlers (SCOTRL)	Heavy otter trawl (100mm mesh)	Cod (IIIa,IV,VIIId)	x		
Scottish trawlers (SCOTRL)	Heavy otter trawl (100mm mesh)	Haddock (IIIa,IV)		x	
Scottish trawlers (SCOTRL)	Heavy otter trawl (100mm mesh)	Whiting (IV,VIIId)		x	
Scottish light trawlers (SCOLTR)	Light otter trawl (100mm mesh)	Cod (IIIa,IV,VIIId)	x		
Scottish light trawlers (SCOLTR)	Light otter trawl (100mm mesh)	Haddock (IIIa,IV)	x		
Scottish light trawlers (SCOLTR)	Light otter trawl (100mm mesh)	Whiting (IV,VIIId)	x		
Scottish seiners (SCOSEI)	Seine	Cod (IIIa,IV,VIIId)	x		
Scottish seiners (SCOSEI)	Seine	Haddock (IIIa,IV)	x		
Scottish seiners (SCOSEI)	Seine	Whiting (IV,VIIId)	x		
English trawlers (ENGTRL)	Otter trawl (100mm)	Cod (IIIa,IV,VIIId)	x		
<i>English trawlers (ENGTRL)</i>	<i>Otter trawl (100mm)</i>	<i>Haddock (IIIa,IV)</i>	<i>derogatin SGNR 2004</i>	x	
<i>English trawlers (ENGTRL)</i>	<i>Otter trawl (100mm)</i>	<i>Whiting (IV,VIIId)</i>	<i>derogatin SGNR 2004</i>	x	
<i>English seiners (ENGSEI)</i>	<i>Seine</i>	<i>Cod (IIIa,IV,VIIId)</i>	<i>derogatin SGNR 2004</i>	x	
<i>English seiners (ENGSEI)</i>	<i>Seine</i>	<i>Haddock (IIIa,IV)</i>		x	
<i>English seiners (ENGSEI)</i>	<i>Seine</i>	<i>Whiting (IV,VIIId)</i>		x	
<i>UK beam trawlers (UKBT North Sea)</i>	<i>Beam trawl (100 or 110mm)</i>	<i>Sole (IV)</i>	<i>derogatin SGNR 2004</i>	x	
<i>UK beam trawlers (UKBT North Sea)</i>	<i>Beam trawl (100 or 110mm)</i>	<i>Plaice (IV)</i>	<i>derogatin SGNR 2004</i>	x	
UK beam trawlers (UKBT Eastern Channel)	Beam trawl (100 or 110mm)	Sole (VIIId)	x		
English otter trawl (UKOT Thames Estuary)	Otter trawl	Sole (IVc west)	x		
English otter trawlers (UKTR Eastern Channel)	Otter trawl	Plaice (VIIId)	x		

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Western region

Fleet	definition (gear)	species	Recommended funding by SGRN		
			MP	EP	N
UK<24m Beam trawlers (Western Channel)	Beam trawl	Sole (VIIe)	x		
UK>24m Beam trawlers (Western Channel)	Beam trawl	Sole (VIIe)	x		
UK Beam trawlers (Western Channel)	Beam trawl	Plaice (VIIe)	x		
UK otter trawlers (Western Channel)	Otter trawl	Sole (VIIe)	x		
UK otter trawlers (Western Channel)	Otter trawl	Plaice (VIIe)	x		
UK Beam trawlers (Celtic Sea)	Beam trawl	Sole (VIIIfg)	x		
UK Beam trawlers (Celtic Sea)	Beam trawl	Plaice (VIIIfg)	x		
UK Otter trawlers (Celtic Sea)	Otter trawl	Plaice (VIIIfg)	x		
UK West coast otter trawlers(VIIe-k)	Otter trawl	Cod (VIIe-k)	x		
UK Beam trawlers (Irish Sea)	Beam trawl	Sole (VIIa)	x		
UK Beam trawlers (Irish Sea)	Beam trawl	Plaice (VIIa)	x		
UK Otter trawlers (Irish Sea)	Otter trawl	Sole (VIIa)	x		
UK Otter trawlers (Irish Sea)	Otter trawl	Plaice (VIIa)	x		
UK Otter trawlers (Irish Sea)	Otter trawl	Cod (VIIa)	x		
UK Otter trawlers (Irish Sea)	Otter trawl	Whiting (VIIa)	x		
Northern Ireland, Jan-April	Otter/pelagic trawl	Cod (VIIa)	x		
Northern Ireland, Oct-Dec	Otter/pelagic trawl	Cod (VIIa)	x		
Northern Ireland Otter	Otter trawl	Whiting (VIIa)	x		
Scottish Trawlers (SCOTRL) west coast	Otter trawl	Cod (Via)	x		
Scottish Trawlers (SCOTRL) west coast	Otter trawl	Haddock (Via)	x		
Scottish Seiners (SCOSEI) west coast	Seines	Cod (Via)	x		
Scottish Seiners (SCOSEI) west coast	Seines	Haddock (Via)	x		
<i>Scottish Seiners (SCOSEI)</i>	<i>Seines</i>	<i>Whiting (VIIa)</i>	<i>derogatin SGNR 2004</i>	x	
Scottish light trawlers (SCOLTR)	Otter trawls	Cod (Via)	x		
Scottish light trawlers (SCOLTR)	Otter trawls	Haddock (Via)	x		
<i>Scottish light trawlers (SCOLTR)</i>	<i>Otter trawls</i>	<i>Whiting (VIIa)</i>	<i>derogatin SGNR 2004</i>	x	
Scottish Nephrops trawlers (SCONTR)	Nephrops trawls (80 mm + SQMP)	Cod (Via)	x		
Scottish Nephrops trawlers (SCONTR)	Nephrops trawls (80 mm + SQMP)	Haddock (Via)	x		
<i>Scottish Nephrops trawlers (SCONTR)</i>	<i>Nephrops trawls (80 mm + SQMP)</i>	<i>Whiting (VIIa)</i>	<i>derogatin SGNR 2004</i>	x	

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5.1.1 Method

Fishing effort (days fished), ICES rectangle and gear type are recorded by all skippers in UK fleets allowing the computation of CPUE at the level of month, rectangle and gear (Appendix XII). The data are a large subset of the commercial landings and age composition data used in the ICES assessments. The CPUE have been estimated as crude ratios of landings to fishing effort in days or hours fished or hours*engine power, aggregated over quarters or averaged over months to remove seasonal signals. Sampling from these tuning fleets involves the collection of length and age data as well as Fishing effort (days or hours fished). The biological data required for these tuning indices are collected as part of fully integrated market sampling programmes which are detailed in Chapter III, H and I.

Deleted: The commercial CPUE data have contributed significantly to the final XSA model fit for cod, whiting, haddock, sole, and plaice.

Deleted: Currently it is not possible to cost these data collection programmes separately as samples for all species are taken in all ports sampled, the cost of an individual sample cannot be applied or administered separately. The species by area and numbers of fish aged to obtain these tuning indices are given in Table 7.1. The costs associated with this element of the programme are included in the costs under Section 7 dealing with Market Sampling for age and length (See summary costs listed in table Annex 1.D).

- 5.2 Extended programme

The cost of collecting cpue data for the small number of fleets under the extended programme is minimal and no funding is being sought under the Extended Programme. Any costs will be borne nationally.

Deleted: Two fleets recommended for funding under the EP rather than the MP following the review of the utility of tuning fleets by SGRN are listed below:
 <#>Scottish heavy trawlers for haddock in IIIa and IV, ¶
 Scottish heavy trawlers for whiting in IIIa and IV

5.3 Collaboration

No international collaboration is anticipated in the collection of data

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Deleted: In 2003, SGRN recommended that if a survey has (a) an established time series, (b) an input to assessments and (c) surveys stocks within a Recovery plan, it should qualify for priority 1 status. This applies to the two DARD groundfish surveys that are noted below.

5.4 Costs for studies of commercial fleet CPUE indices

See summary table Annex 1.C for separately identifiable costs; most costs are included in the costs under Section 7 dealing with market sampling.

6. Chapter III, G Eligibility of the scientific evaluation surveys of stocks

The following sections detail those surveys included in the minimum and extended programmes under G (1) and (2). The official survey names from Appendix XIV has been used and 'national' survey names included in brackets. It should be noted that in some cases, two or more of the surveys given here belong to a single survey heading in Appendix XIV. It is important to note that some priority 2 surveys provide important minimum programme data for priority 1 species under Chapter III, I (see section 8). In particular, these surveys are used to provide biological parameters (fecundity, maturity and growth curves) for a number of primary commercial species.

6.1 Minimum programme

The UK will carry out all surveys classified with priority 1 in Appendix XIV of Regulation 1639/2001) and amending Regulation 1581/2004) and will try to ensure continuity with previous survey designs to maintain input to ICES Assessment Working Groups. Full descriptions of the surveys have been provided in the UK bid for 2002 & 2003. Three UK surveys (DARD Groundfish surveys in Q1 and Q4) and the Scottish West Coast Young Fish survey in Q1 provide assessment information for cod in VIa and VIIa where stocks are under a recovery plan. Accordingly these surveys have been re-graded to priority 1 for 2006 (SGRN 2004).

(A) UK priority 1 surveys (Appendix XIV): North Sea & Eastern Channel & ICES Area II

- 6.1.1 IBTS 1st quarter ; IV, IIIa (Scottish International Bottom Trawl Survey)
- 6.1.2 Atlanto-Scandian herring survey (ASH); IIIa; Q2
- 6.1.3 IBTS 3rd quarter; IV, IIIa (English International Bottom Trawl Survey)
- 6.1.4 IBTS 3rd quarter; IV, IIIa (Scottish International Bottom Trawl Survey)
- 6.1.5 NS Herring Acoustic Survey; IV, IIIa; 3rd Q (Scottish NS Herring Acoustic Survey)
- 6.1.6 BTS; IVb, IVc, VIId; 3rd Q (English Beam Trawl Survey)
- 6.1.7 Demersal Young Fish Survey; coasts of NS; 3rd/4th Q (English Demersal Young Fish Survey)

(B) UK priority 1 surveys (Appendix XIV): North East Atlantic Area & Western Channel

- 6.1.8 Western IBTS 4th quarter; VIa, VII; 4th Q (Scottish Western IBTS)
- 6.1.9 Western IBTS 4th quarter; VIa, VII; 4th Q (English Western IBTS)
- 6.1.10 ISBCBTS; VIIa,f,g; 3rd Q (Irish Sea & Bristol Channel Beam Trawl Survey)
- 6.1.11 Spawning/prespawning herring acoustic survey; VIa, VIIa, g; 2nd/ 3rd Q (Scottish Spawning/pre-spawning Herring Acoustic Survey)
- 6.1.12 Spawning/prespawning herring acoustic survey; VIa, VIIa, g; 2nd/ 3rd Q (Northern Irish Spawning/pre-spawning Herring Acoustic Survey)
- 6.1.13 DARD groundfish; VIIa; Q1 & Q4 (Northern Irish Q1 and Q4 groundfish surveys) STECF Subgroup on Research Needs (SGRN Dec 2004) accepted that there were two surveys not one as stated in Regulation 1639/2001. The DARD groundfish surveys have been carried out in March & October since 1991. Both surveys provide WGNSDS with indices of abundance for cod, whiting and haddock that have contributed substantially to the XSA assessment of these species carried out by ICES. The DARD March and October surveys are currently the only tuning data used by ICES for all age classes of haddock, and for cod of age class 1 and older, in Division VIIa. They were also an important source of information for establishing closed areas under the Irish Sea cod recovery programme.
- 6.1.14 Scottish West Coast young fish survey; VIa, VIIa; 1st Q (Scottish International Bottom Trawl Survey, ICES area VI & VIIa, 1st quarter). This survey currently provides the only tuning data for VIa cod and whiting. Since VIa cod is under a recovery plan, the revised criteria for priority 1 surveys has been applied to this survey (SGRN 2004) and it is now included as a priority 1 survey. This survey is also used to provide biological parameters for other priority 1 species
- 6.1.15 Blue whiting survey; VIa,b,VIIc,d,j,k; 1st and 2nd Q: The UK will contribute towards vessel and staff costs – however there remains some uncertainty on the methodology to be applied to determine Member States shares of the costs – the UK has worked on the basis of deriving a share of costs based on the UK share of the TAC. In addition, the exact requirements for involvement are uncertain. In light of these uncertainties, a similar level of involvement has been assumed as with the Atlanto-Scandian Herring co-ordinated survey. **As such the costs estimates may need to be revised in light of the final decisions taken on the work to be carried out under the umbrella of this survey.**

The number of days planned for each survey, number of hauls or tracks and target species are shown in table 6.1:

Table 6.1 Summary table Priority 1 surveys					Country	UK	MP			
					Reference year	2006				
Name of survey	Aim of survey	Area covered	Period	Days at sea		Sampling activities				Reference to map (optional)
				Planned	Achieved	Type	Planned	Achieved	% achieved	
North Sea										
IBTS 1st quarter (Scottish International Bottom Trawl Survey)	recruit and tuning indices, gadoids & herring	IVa,b,c		23		Fish Hauls	50			
IBTS 3rd quarter (English International Bottom Trawl Survey)	recruit and tuning indices, gadoids & herring	IVa,b,c	3rd quarter	32		Fish Hauls	75			
IBTS 3rd quarter (Scottish International Bottom Trawl Survey)	recruit and tuning indices, gadoids & herring	IVa,b,c		23		Fish Hauls	87			
NS herring acoustic survey	abundance index for herring	IV	3rd quarter	21		echo nm	approx 2600			
						Fish hauls	40			
BTS	recruit and tuning indices, flatfish	VId	3rd quarter	15		Fish Hauls	125			
Demersal Young Fish Survey	recruit indices, flatfish	IVc	3rd quarter	8		Fish Hauls	84			
NE Atlantic and w Channel										
Western IBTS 4th quarter (English Western IBTS)	recruit and tuning indices, gadoids	VIIa,e,f,g,h,j	4th quarter	32		Fish Hauls	81			
Western IBTS 4th quarter (Scottish Western IBTS)	recruit and tuning indices, gadoids & herring			21		Fish Hauls	80			
ISBCBTS September	recruit and tuning indices, flatfish	VIIa,f,g	September	24		Fish Hauls	108			
Spawning/pre-spawning herring acoustic survey	abundance index for herring	VIIa, VIIa	2nd/3rd quarter	20		echo nm	approx 2500			
						Fish hauls	36			
Dard groundfish	recruit and tuning indices, gadoids	VIIa	1st quarter	19		Fish Hauls	60			
Dard groundfish	recruit and tuning indices, gadoids	VIIa	4th quarter	19		Fish Hauls	60			
Scottish west coast young fish survey	recruit and tuning indices, gadoids	VIIa, VIIa	1st quarter	20		Fish Hauls	57			

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6.2 Extended programme

The UK will carry out all surveys classified with priority 2 in Appendix XIV of Regulation 1639/2001 and amending Regulation 1581/2004 and will ensure continuity with previous survey designs to maintain input to ICES Assessment Working Groups. Full descriptions of the surveys have been provided in the UK bid for 2002 & 2003.

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(A) UK priority 2 surveys (Appendix XIV). North Sea & Eastern Channel & ICES Area II

6.2.1 Nephrops TV survey; IVa; 2nd Q (Scottish Underwater Television Surveys). It should be noted that there are 2 surveys in area IVa. Scotia surveys the offshore regions of the North Sea in late June (2nd Quarter) whilst Clupea surveys the inshore grounds at the beginning of July (3rd Quarter). The Scotia survey then continues into ICES division VIa (see 6.2.7). It should be noted that in the original Regulation 1639/2001, the time period was given as the 2nd quarter. In the amending Regulation 1581/2004 there is an error as the time periods are given as 1st and 4th quarters. In fact the survey also continues into the 3rd quarter and SGRN (2004) accepted that the revised survey times were more appropriate to the sea conditions and that the change did not affect the continuity of the survey or negatively affect the survey results.

(B) UK priority 2 surveys (Appendix XIV). North East Atlantic Area & Western Channel

6.2.2 WCBTS; VIIe; 4th Q (Western Channel Beam Trawl Survey, VIIe, 4th quarter)
This survey is listed as Priority 1 in the revised regulation (1581/2004). This is believed to be an error as it was not included in the revisions agreed by SGRN during its meeting in December 2004.

Deleted: Scottish International Bottom Trawl Survey; 1st Q; VI & VIIa, (Scottish West Coast, Young Fish Survey)

6.2.3 English Western Groundfish Survey; 1st Q; VIIe-k, VIIIa, (IBTS (WCGFS))
This survey is used to provide biological parameters for other priority 1 species, and for Chapter III, I (Chapter 8)

6.2.4 DARD herring larvae; VIIa, 4th Q

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6.2.5 DARD MIK-net; VIIa; Q2

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6.2.6 DARD Nephrops; VIIa; Q2 & Q3 (Trawl and camera survey)

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6.2.7 Egg production surveys; VIIa; 1st & 2nd Q (Irish Sea Egg production surveys)

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6.2.8 Nephrops TV survey; VIa; 1st and 3rd Q (Scottish Underwater Television Surveys, ICES area VIa, 2nd and 4th quarters)

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The 2nd quarter survey is a continuation of the Q2 survey 6.2.1. Although these surveys were previously carried out in the 1st and 3rd quarters, SGRN accepted that the revised survey times (2nd and 4th quarter) were more appropriate to the sea conditions and that the change did not affect the continuity

of the survey or negatively affect the survey results. However, in 2004/2005 Scotland experienced some resistance from fishermen in conducting a survey in the sea lochs just prior to Christmas (high pre-Christmas prices ensured that local fixed net fishermen (creel pots) would not lift their equipment to allow a trawl based survey). Agreement has been reached to lift the creel pots in January when prices are much lower. Thus Scotland seeks a derogation to undertake the 4th Quarter survey in the 1st quarter of the year; there is no biological or scientific objection to delaying the survey by a month. This has been accepted by SGRN (Dec 2004).

6.2.8 Deepwater survey (Scottish Deep water survey VIa). This is a biennial survey which has been added to Appendix XIV by amending Regulation 1581/2004. Normally this will be a survey undertaken every second year in conjunction with a biennial Rockall survey (alternating years). In effect, a combined Rockall/Deepwater will take place every year but only funding for the relevant biennial component will be sought from the EU in each year; the other component will be at national expense.

Deleted: Although this survey was previously carried out in the 1st and 3rd quarters, SGRN accepted that the revised survey times were more appropriate to the sea conditions and that the change did not affect the continuity of the survey or negatively affect the survey results.

The number of days planned for each survey, number of hauls or tracks and target species are shown in table 6.2 below:

Table 6.2 Summary table Priority 2 surveys					Country	UK	EP			
					Reference year	2006				
Name of survey	Aim of survey	Area covered	Period	Days at sea		Sampling activities				Reference to map (optional)
				Planned	Achieved	Type	Planned	Achieved	% achieved	
North Sea										
Nephrops TV survey	nephrops abundance index	IVa	2nd & 3rd quarter	23		Fish hauls	15			
						TV stations	130			
NE Atlantic and w Channel										
Nephrops TV survey	nephrops abundance index	VIa	1st & 2nd quarter	26		Fish hauls	12			
						TV stations	160			
WCBTS	recruit and tuning indices, flatfish	VIIe	4th quarter	8		Fish Hauls	58			
Egg production survey	abundance index cod	VIIa	1st & 2nd quarter	15		plankton hauls	150			
Dard herring larvae	larval herring abundance	VIIa	4th quarter	4		Fish Hauls	63			
Dard Mik-net	abundance indices , gadoids	VIIa	2nd quarter	10		Fish Hauls	108			
Dard nephrops	nephrops abundance index	VIIa	2nd & 3rd quarter	23		Fish hauls	57			
						TV stations	100			
IBTS (WCGFS)	recruit and tuning indices, gadoids, flatfish	VIIb,e,f,g,h,j	1st quarter	29		Fish Hauls	60			
Deep Water	recruit and tuning indices, gadoids	VIa	3rd quarter	12		Fish Hauls	36			

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6.3 Collaboration

International collaboration will be undertaken to ensure full coverage of the survey areas and utilisation of survey data either through combined indices or through estimation of individual age compositions required for assessment Working Groups. This will involve participation at ICES International Bottom Trawl Working Groups for the NS and Western regions; participation at the ICES Beam Trawl Study Working Group for integration of the Q3/Q4 beam trawl surveys; participation in the ICES Planning Group on Commercial catch, discards and biological samples for integration of maturity and other biological information collected on surveys and in the EU funded Regional Coordination Meetings).

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6.4 Costs for research vessel cruises (Chapter III, G) and most biological parameters (Chapter III, I)

See the summary of costs in table Annex 1.C for the minimum programme and table Annex 1.F for the extended programme.

7. Chapter III, H: Biological sampling of catches: composition by age and by length

Precision

Length and age composition of stocks under a Recovery plan: Level 2 or on basis of UK tonnage landed

Length and age composition of other stocks: Level 1 or on basis of UK tonnage landed

All stocks identified in Regulation 1639/2001 Appendix XV as amended by Regulation 1581/2004 will be sampled unless the UK landings are below the threshold identified in the Regulation. Exceptions to this are cod in ICES area I & II (see exemption below section 7.2). The UK has previously undertaken some sampling for length and age on a fleet basis. Following the guidelines of the revised regulation (1581/2004), the UK will continue to sample on a fleet basis for a limited number of stocks. The intention will be to sample for length and age at Precision level 1 except for stocks that are subject to a recovery programme where precision level 2 will be used. If this is not possible, sampling will be at the levels specified in Appendix XV. Foreign landings into the UK have been included in calculating the numbers of samples and otoliths to collect. However, in cases where foreign landings are transhipped immediately by lorry, it may not be possible to obtain samples. In these cases, it has been agreed that the country of first sale should carry out the sampling (NS RMC 2004). Collaboration with coordinators from other countries has been undertaken to ensure compliance with this and bi-lateral agreements reached with Belgium and Ireland and there are ongoing discussions with Spain (see Annex 1 and 2).

Deleted: recommendation by SGRN (2003) to plan collection by fleet segment,

Deleted: continue to sample at this level for the fleets previously specified (see section 5.1)

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The sampling programme detailed in this section fully integrates the market sampling for length and age composition and the provision of fleet based commercial CPUE indices. It is currently not possible to separate the costs of these two integrated programmes so the description and costs presented here cover sampling schemes for the data required for both Chapter III, F and H. Sampling is based on fleets and regions, which are used to construct, age length keys. Otoliths are obtained on a length-stratified basis. Otoliths are subsequently read in the laboratory by CEFAS, FRS and DARD in order to construct seasonal regional age/length keys for each species. The key is applied to a raised length frequency to produce fleet numbers at age, etc. for each sampling area. A subsequent aggregation of regions allows the production of data summaries on any combination of strata.

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England: Biological sampling of catches to assess their composition by age and length is conducted at fish markets at ports in England and Wales mainly by Sea Fish Inspectorate staff based at or near the coast with some sampling of additional species by CEFAS staff from Lowestoft.

Scotland: The Marine Laboratory Aberdeen operates an integrated sampling system in Scotland whereby all major demersal, pelagic and *Nephrops* stocks are sampled by the same team as the opportunity arises. This method involves sending two person teams or, where safety and health considerations allow, one person to relevant ports and points of first sale to sample all available species. Whilst this method is driven by the main species landed e.g. cod, haddock, whiting, saithe, herring, mackerel and *Nephrops* the system allows sufficient flexibility to increase sampling on minor species if landings of major species are curtailed. Thus sampling is attuned to the dynamic nature of Scottish fishing and landings. The basic sampling strategy is monthly aimed to provide commercial fleet CPUE indices for the primary species however, not all ports and areas are covered each month, sampling by quarter is ensured for all demersal species and for pelagic species during the fishing seasons.

Northern Ireland: Northern Ireland currently carries out length and age measurements for landings of the following species listed in the regulation: cod, whiting, haddock in VIIa and VIa, and herring and *Nephrops* in VIIa. Sampling stratification is Level 3 (Sub-Area: Commission Appendix I), quarterly and by gear type (Pelagic whitefish trawl; Demersal trawl; Pelagic herring trawl) according to the segregation of markets or landing sites and information recorded on EC log sheets for sampled vessels. The great majority of samples collected in Northern Ireland are for Division VIIa landings. During 2002 & 03, sampling for length was extended to include plaice, skates and rays. At present, otoliths are collected by purchasing samples of fish from markets. Length composition data for herring and *Nephrops* are also obtained from samples purchased from designated fishermen and factories. These costs are included under "consumables" together with consumable costs for mounting otoliths and fuel costs for port visits.

7.1 Minimum programme

7.1.1 Sampling Fish Markets for Length and Age; stocks specified in Appendix XV

The UK minimum level sampling requirements based on Appendix XV are detailed in Table 7.1 by species by area. In addition Table 7.1 shows average annual reported landings (UK and foreign registered vessels) into UK for the period 2002-2004 for the species included under the MP in Appendix XV. All species in Appendix XV where UK landings exceed 5% of the total international have been sampled for length and where >10% for age. Where the proposed sampling is in excess of the MP requirements, this is because of need to sample for a mandatory tuning fleet or to ensure adequate samples for sampling to precision level 1 or 2.

Sampling for skates and rays will be by species as required.

The UK currently samples angler fish (*Lophius spp*) using otoliths and ilicia. The workshop on age reading of anglerfish in 2004 concluded that there were serious difficulties in obtaining an acceptable level of precision in the age reading of anglers. However, until the

Deleted: Data are currently not collected on other species including hake, anglerfish, sole and saithe as NI landings from these stocks contribute relatively little to the total international landings.

Deleted: and Norway by all EU flagged vessels irrespective of nationality

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Deleted: The UK landings have been compared to the reference level by species and area to select those species to be included in the minimum programme.

Deleted: In addition the

Deleted: This is the case for plaice and sole in the North Sea following the loss of the English beam trawl fleet and for seine caught cod in the English North Sea seine fleet. ¶

Deleted: has previously been carried out under mixed species categories. Currently the sampling level is specified in Table 7.1 under the mixed skates and rays. An EU funded project DELASS (99/055) provided species identification keys and sampling at

Deleted: species levels will be continued in 2005 in the UK. ¶

Deleted: whereas many other countries use ilicia. SGRN (2003) supported this approach in view of the Commission funded contract (*Distribution and Biology of anglerfish and megrim in waters to the west of Scotland* – Study Contract 98/096) which found that otoliths were more reliable than ilicia.

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Deleted: is proposed for 2004 and in the absence of an agreed strategy on ageing, the UK will continue to collect and read otoliths

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ICES WG on hake, monk and megrim has made a decision on whether to discontinue ageing in these species, the UK will continue to collect samples for ageing.

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Table 7.1 UK sampling programme - Sampling levels at age and length by species for Chapter III, F CPUE Indices and Chapter III, H Sampling at age and length

Species	Area	Average total Landings 2002-2004	Minimum programme		Proposed numbers	
			Length	Ages	Lengths	Ages
North Sea and Eastern Channel ICES areas IV, VIId						
Herring	Clupea harengus	35432	1772	886	1800	900
Sea bass	Dicentrarchus labrax	265	66	66	3000	1200
Cod	Gadus morhua	11383	2846	1423	51000	12140
Cod	Gadus morhua	124	31	16	4200	600
Megrim	Lepidorhombus whiffiagonis	1327	133	66	5000	175
Anglerfish	Lophius spp	6843	855	855	10000	800
Haddock	Melanogrammus aeglefinus	37315	9329	4664	80000	8200
Whiting	Merlangius merlangus	6973	349	872	58400	5800
Whiting	Merlangius merlangus	107	5	13	1600	1200
Lemon sole	Microstomus kitt	1127	141	141	2500	300
Norway lobster	Nephrops norvegicus	1942	15536		15600	
Norway lobster	Nephrops norvegicus	7302	58416		58500	
Norway lobster	Nephrops norvegicus	1374	10992		11000	
Norway lobster	Nephrops norvegicus	1182	9456		9500	
Norway lobster	Nephrops norvegicus	334	2672		1000	
Common scallop	Pecten maximus	1739	435		450	
Plaice	Pleuronectes platessa	759	1518	380	15000	2400
Saithe	Pollachius virens	6337	1584	792	11500	5000
Other rays and skates	Rajidae	1316	66		3000	
Sole	Solea solea	313	78	39	7000	1200
Sole	Solea solea	1116	2232	558	15000	2400
Sprat	Sprattus sprattus	715	18		200	
NE Atlantic and Western Channel ICES areas V, VI, VII (excluding d), VIII, IX, X, XII, XIV						
Argentine	Argentina spp.	1556	311	156	311	156
Edible crab	Cancer pagurus	11454	2864		21200	
Herring	Clupea harengus	14208	710	355	750	400
Herring	Clupea harengus	2204	110	55	150	75
Sea bass	Dicentrarchus labrax	339	85	17	4000	1200
Cod	Gadus morhua	2899	725	145	350	150
Cud	Gadus morhua	1041	260	52	3000	1000
Cod	Gadus morhua	55	14	3	80	50
Cod	Gadus morhua	972	243	49	9000	2100
Cod	Gadus morhua	746	187	37	5000	1200
Lobster	Homarus gammarus	470	24		5000	
Megrim	Lepidorhombus whiffiagonis	1551	776	155	8000	1200
Megrim	Lepidorhombus whiffiagonis	738	369	74	3000	175
Anglerfish	Lophius spp	1524	762	191	2000	500
Anglerfish	Lophius spp	3249	1625	406	7000	425
Haddock	Melanogrammus aeglefinus	2708	68	68	300	100
Haddock	Melanogrammus aeglefinus	4431	222	443	10000	1800
Haddock	Melanogrammus aeglefinus	977	49	98	1500	300
Haddock	Melanogrammus aeglefinus	457	23	46	7000	600
Haddock	Melanogrammus aeglefinus	485	24	49	3000	300
Whiting	Merlangius merlangus	113	57	11	60	25
Whiting	Merlangius merlangus	764	382	76	4000	1000
Whiting	Merlangius merlangus	194	97	19	2500	600
Whiting	Merlangius merlangus	1003	502	100	9600	600
Hake	Merluccius merluccius	2723	1362		10000	
Blue whiting	Micromesistius poutassou	24171	1209	604	1209	604
Ling	Molva molva	3329	166	83	166	83
Norway lobster	Nephrops norvegicus	3296	26368		26500	
Norway lobster	Nephrops norvegicus	3672	29376		29500	
Norway lobster	Nephrops norvegicus	3171	25368		25500	
Norway lobster	Nephrops norvegicus	368	1472		3000	
Norway lobster	Nephrops norvegicus	4485	17940		18000	
Plaice	Pleuronectes platessa	1027	4108	1027	7000	2400
Plaice	Pleuronectes platessa	956	3824	956	12000	2400
Plaice	Pleuronectes platessa	267	1068	267	10000	2400
Saithe	Pollachius virens	3544	1772	354	200	100
Saithe	Pollachius virens	2510	1255	251	1300	275
Saithe	Pollachius virens	310	16		75	
Other rays and skates	Rajidae	7630	191		2500	
Mackerel	Scorpaenidae	114830	5742	2871	8000	3500
Sole	Solea solea	200	3120	780	6000	2400
Sole	Solea solea	825	3300	825	9000	2400
Sole	Solea solea	203	10	5	75	25
Sole	Solea solea	235	118	29	12000	2400
Highly migratory species, Atlantic, Indian, Pacific Oceans						
Porbeagle	Lamna nasus	17	21		25	
Blue shark	Prionace glauca	4	5		10	
Shark	Squalidae	537	269		300	

7.1.2 Exemptions: No samples will be collected from cod in ICES area I, II. These catches are taken by vessels that are at sea for several months and move between ICES areas. All landings are of processed fish. It would not be possible to sample without prohibitive cost and the low UK landings in relation to the total mean that it is unlikely that the UK samples would improve the assessment of this stock. SGRN 2002 accepted this exemption. The UK is required to sample Nephrops from FU 10. This area has a small, seasonal and very sporadic fishery that takes place over a short period of time and the opportunity to sample is consequently very low. **Sampling would involve excessive cost and a derogation is requested.**

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7.1.3 Sampling Discards for Length and Age; stocks specified in Appendix XV

The UK discard sampling programmes incorporate the estimation of length distributions and the collection of otoliths from the discarded size groups of all target species so far as conditions at sea permit. This is in accordance with H(1)e. Provided that sufficient otoliths are successfully collected, age-length keys are generally prepared quarterly by ICES division in accordance with the requirement in H(1)e for sampling lengths and ages of discards as specified in Appendix XII for commercial landings.

7.2 Extended programme

7.2.1 Extensions regarding market sampling for length and age

No funding is requested

7.2.2 Extensions regarding discards

UK discard sampling estimates the annual composition in length of all fish species caught on the sampled fleets during the year, so far as safe working time on deck permits. The costs of the EP are not therefore significantly greater than the cost for the MP and currently no additional funding is requested

7.3 Collaboration

7.3.1 Landings of foreign vessels into the UK

7.3.1.1 Belgium: Landings by Belgian beamers into the UK are overlanded into Belgium for 1st sale. A bi-lateral agreement has been set up with Belgium whereby, these landings will be sampled by Belgium as part of its DCR programme (see Appendix 1).

7.3.1.2 Spain: Spanish landings occur into west coast ports of Scotland. These are overlanded into Spain and discussions are in progress with Spain to see if there is a need for these to be sampled at port of 1st sale.

7.3.1.3 Ireland: Irish landings into Scotland will be sampled by Scotland. Irish landings overlanded for 1st sale into Ireland will be sampled by Ireland (see Appendix 3).

7.3.2 Landings of Anglo-Spanish vessels abroad

These vessels are registered in the UK but land the majority of their catch into Spain. The UK has an obligation to ensure that these vessels are sampled. Discussions are in progress with Spain to ensure these landings are sampled as part of the Spanish DCR.

7.3.3 Samples for length and age

7.3.3.1 North Sea

The UK landings of turbot are very low and require samples of less than 50 length measurements per year to be collected. The Netherlands already samples turbot in excess of the MP and has agreed to include these fish as part of its programme.

Deleted: In 2002 foreign landings accounted for 13.4% of all landings in the UK by weight (15% by value). 61,6000 tonnes (£55m) were landed into Scotland and 10,700 tonnes (£19.8m) was landed into England and Wales. The main EU fleets landing in the UK are Anglo-Spanish and Belgian fleets unloading in English west coast ports and Irish, French and Spanish fleets landing in Scottish west coast ports. The majority of these landings are overlanded for first sale in Spain and Belgium. It has been agreed that these landings should be sampled at first sale rather than port of landing. Discussions will be held with IEO and AZTI Spain and with FRS Belgium in order to ensure compliance over sampling these landings. Where it is possible to sample the landings, e.g. French landings on the Scottish west coast, a programme of sampling has been implemented. The entire sampling of 'foreign' landings will be co-ordinated internationally at the ICES Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS) and at RPGs. The UK will also participate in the otolith exchanges and workshops on improving ageing of key species (whiting) that will be held in 2005.

7.4 Costs for Sampling Landings for Length and Age (Chapter III, H) including sampling for Fleet based tuning indices (Chapter III, F)

See the summary of costs at table Annex 1.D

8. Chapter III, I: Other biological sampling

The UK will sample species indicated in Appendix XVI unless exempted on the basis of landings. Sampling will be undertaken at an annual, triennial or six-annual cycle as specified. Data will be collected for sexes separately where specified in the Regulation.

8.1 Minimum programme

The collection of data relating to growth by length and weight and maturity stage for species covered by Appendix XVI will be obtained using two main methods: -

a) Use of research vessel surveys

A number of research cruises carried out under Chapter III, G - Section 6 (above) will be used to provide samples for estimation of biological parameters for species covered by these surveys. Data for those groundfish species where the market practice is to land fish gutted with gonads removed (gadoids) will be collected on research cruises. In the North Sea the IBTS quarter one survey (6.1.1) will provide data at the important time of year, when most of the gadoids are mature and data on the maturity ogives can be collected. Data from this survey will be co-ordinated through the ICES IBTS WG to obtain growth and other biological parameters. In the Western area the IBTS (WCGFS) (6.1.8 & 9), the Scottish 1st quarter Young Fish Survey (6.1.14) and the DARD 1st quarter Ground fish survey (6.1.13) as well as other opportunistic cruises will be used to provide biological parameters. For herring the ICES co-ordinated acoustic surveys (6.1.6, 6.1.11, and 6.1.12) will be used for biological parameter estimation. The ICES co-ordinated groundfish surveys will be used to provide data for growth and fecundity data for mackerel and horse mackerel.

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b) Use of market sampling for flat fish and shellfish

Port sampling will be used in addition to research vessel surveys for shellfish and for other species covered by Appendix XVI where the market practice is to land fish live or gutted with gonads retained. Data will be collected in this way for crabs, lobsters, sole, plaice, lemon sole, turbot, brill and megrim (*L. whiffiagonis*).

Data for sex ratios will be obtained from commercial landings where possible.

8.1.1 Plan for sampling biological parameters 2005-2007

The Commission requested that MS set out a sampling plan for the period 2005-2007 in which they identified

- i) which species are to be sampled over the period
- ii) which parameters it is proposed to update in the period 2005-2007
- iii) whether the studies will involve international cooperation

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UK NATIONAL PROGRAMME FOR THE COLLECTION AND MANAGEMENT OF FISHERIES DATA IN 2006

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The questions relating to updating of parameters (ii and iii above) are dependent on agreement with other countries and the appropriate species Working Groups. It has not yet been possible to organize this collaboration. However, a start was made at the RCMs in 2004 and this will be extended during the 2005 meetings. These discussions could affect the 2006 programme. In discussing this issue, ICES PGCCDBS stated that "shared data would be expected to provide improved indices. This is only appropriate if all countries are collecting data in a standard way. There was some uncertainty that this was the case and it was felt that combination of data for which there was no quality control may be of limited scientific value. For instance, one key problem is differences in interpretation of maturity stages and the time of the year used by different countries. There is a need to agree standardisation between countries and as was recommended for age, it was suggested that exchanges and or workshops should be held between countries. For maturity, the spawning period is the best time to measure maturity but this is not always possible if surveys are used to collect data as not all surveys occur at the appropriate time of the year. Another problem is the need to coordinate sampling over the triennial period. There is no group dealing directly with the methodology of standardising the collection and measurement of biological parameters". These issues are under discussion within the regional coordinating meetings and it is hoped that there will be a standardised approach to sampling in place by 2006.

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In the case of shellfish, the Commission requires revision to growth parameters every three years in the NE Atlantic for crab and lobster. There is currently no validated method for routine analysis of age in these species. Experimental methods using lipofuscin accumulation studies have been undertaken and the results evaluated but this method is not suitable for routine ageing. Conventional ageing will require intensive tagging studies. These are extremely expensive and will not produce results for several years. In order to be successful, these programmes will require international cooperation and this level of collaboration has not been agreed. This issue was discussed at the North Sea and NE Atlantic Regional Coordinating Meetings. It was agreed that until a sensitivity analysis had been carried out on the impact of ageing in the assessment, no ageing studies or material would be collected. In view of these difficulties, the UK requests a derogation from the requirement for a three yearly update for crabs and lobsters.

Deleted: The PGCCDBS recommended that the ICES SG GROMAT should take on this responsibility and this should then be included in the Quality Handbooks for each stock. The RPG should make an inventory of all standard methods for individual stocks to ensure comparability between countries. However, SG GROMAT will only meet next in 2005, in the meantime it was recommended that the IBTS standard methodology (ICES CM 1999/D:2) should be adopted.

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Until there is international agreement, it is not possible to indicate which species will be updated in the period 2005-07 but the UK intends to continue sampling all species caught by research vessels on an annual basis

8.2 Extended programme

No funding is currently being applied for under this part of the programme.

8.3 Collaboration

The programme will be co-ordinated internationally at the ICES Planning Group on Commercial Catch, Discards and Biological Sampling (PGCCDBS), RCMs and the ICES IBTS WGs.

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A bilateral agreement has been set up for turbot to be collected as part of the sampling programme by the Netherlands. It has also been agreed that the Netherlands will collect the required data for maturity, growth and sex ratios for these species.

8.4 Costs for Collecting Biological Parameters (Chapter III, I) excluding data collected through research vessel surveys and market samples (Chapter III, G and H).

See the summary of costs at table Annex 1.C.

Module of evaluation of the economic situation of the sector

9. Chapter IV, J. Collection of economic data by groups of vessels

9.1 Minimum Programme

The UK will be engaging the Sea Fish Industry Authority (SEAFISH) who have historically carried out economic surveys of the fish catching sector. A full economic survey of the UK fleet is scheduled to be carried out in 2005. Additional surveys will be carried out in 2006 to update this main survey. The exact level of resources required will be determined in the light of the results of the work to be carried out in August and September 2005 when the main data collection work for the economic survey will be carried out. Extensive cooperative work has been carried out during 2005 with the fishing industry on the development of a details economic model of fishing fleet activity. It is hoped that this work will have helped to produce an improvement in response rates and access to data, which should allow costs involved in the survey work in 2006 to be reduced. An example of this is that for some key segments industry cooperation has reached such a good point that detailed quarterly access to financial information for individual vessels is being made available.

One revised component of the survey planned for 2006 is an extension of the plan for the survey to include an allowance for a separate technical analysis of the results of the survey to be carried out by the CEMARE (Centre for the Economics and Management of Aquatic Resources) institute at the University of Portsmouth. This analysis will provide an external review of the work carried out, including an assessment of the quality of the results from the survey.

In addition work is also planned to cover the economic activity of small vessels (10m and under) to assess their level of economic activity and in particular their level of dependence on fishing as a source of income compared with other activities. This work will also be designed to collect accurate effort data to allow precision estimates to be made of the information estimated by data collectors at the same time as details of landings of fish are collected for module E (see Section 4.1.1. above)

10. Chapter IV, K. Gathering of data and the processing industry

The Sea Fish Industry Authority repeated their 2002 survey on the processing industry in the UK during 2004, with a full report having been published. Data for 2006 will thus be estimated on the basis of this survey and on-going UK wide business surveys during 2006 that will continue to cover the fish processing industry as part of their overall remit (e.g. Annual Business Inquiry, PRODCOM production and sales inquiry), rather than there

being an actual data collection exercise during 2006, and the costs included in the financial fiche relate to the costs of staff time needed to carry out this work.

11. Article 10 Data Base and Data Access

Fisheries data in the UK have historically been archived in separate databases in Scotland, Northern Ireland, and England for various reasons. Initiatives are now under way to modernise the major systems in England, Wales, Northern Ireland and Scotland. As part of this work a joint strategy for the development of IT systems in the UK Fisheries Departments is in place. An integral part of this work is the creation of combined UK databases on fishing activity and biological sampling. These will be the sources of the data to fulfil the requirements for fishing activity and biological data set out in the minimum programme. These databases will be completed within 1-2 years, and as part of its creation the current degree of compatibility between the systems will be improved.

At the current time an interim UK activity database which is updated twice daily from the main systems operated by the UK Fisheries Departments has been produced which meets some but not all of the requirements under the data collection regulation – other requirements such as detailed information at the level of ICES rectangle, are met through separate less frequent exchanges of information. During the remainder of 2005 and through 2006 the final activity database, which will incorporate fully all of the requirements of the data collection regulations, will be developed. The UK programme for 2006 thus includes details of the costs involved (€) in maintaining what is in effect an interim solution, and the development and incorporation of necessary data extraction procedures to meet the requirements of the Regulation into the final UK activity database. As such the costs associated with this development that fall within the remit of the data collection Regulation are very limited – i.e. they do not include any of the main costs of developing the database infrastructure, software development, etc.

Additional work is required to bring together the separate scientific data from the institutes in the UK and merge data at an intermediate level. This entails scientific co-ordination to ensure comparability between the respective elements. The costs of this co-ordination work and the building of intermediate scientific databases to enable access as required by the Commission are included in the minimum programme (see 12.2 below).

The resulting datasets will be placed on a server, containing appropriate database software, with suitable security that will then be accessible as required under Article 9(3) of the Regulation. There may be some future costs associated with revising these databases once the methodology and standardised formats for data transmission in response to requests for data are introduced. At the moment these are not anticipated to be significant.

12 Co-ordination

12.1 UK correspondent and internal co-ordination

A UK national correspondent has been appointed to supervise the UK commitment to the data collection programme. There will be sub-co-ordinators, to cover separately the

scientific aspects and the fleet, activity, catches, landings and other data aspects. It is estimated that in total this will comprise at least 1 man-year.

12.2 Costs of database, general co-ordination and related scientific work

For the scientific aspects covered in 12.1 above resources of up to 0.5 person years annually will be needed in order to:

- Promote co-ordination and harmonisation of scientific data collection in Scotland, Northern Ireland, England and Wales and ensure collaboration with international coordinators
- Maintain communications and data collation within the UK for transmission to the Commission and other specified parties.
- As necessary, represent the UK at meetings on market sampling, discard sampling, biological sampling, etc.
- Collate cost and administrative information from the different UK organisations involved in the programme.
- Ensure that activities specified under the MP concerning scientific data are being effectively carried out within the UK.

The following meetings will be attended:

INTERNATIONAL COORDINATION 2006		
Destination*	(MO) Meeting organisation	
1/Data collection National co-ordination - 1 meeting per year	1Coord	1 Sco 3 Eng 1 NI 2 SEERAD
2/ Data collection: Regional co-ordination North sea Atlantic (North East)		1 Sco 2 Eng 1 Sco 2 Eng
3/ Planning Groups on data collection <u>and ageing workshops</u> PGCCDBS Plenary meeting <u>Statistical workshop on precision</u> <u>User</u> Workshop on precision level Workshop on fisheries based sampling, Nantes cod otolith reading workshop if required following exchange in 2005 saithe otolith reading workshop sandeel otolith reading workshop	1 coord	2 Sco 2 Eng 1 Eng 1 Eng 1 Sco 2 Eng 2 Sco 2 Eng 1 NI 1 Sco 1 Sco

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sole otolith reading workshop		1 Eng
4/ Planning Groups on surveys at sea (including tuna tagging)		
ICES International Bottom Trawl Surveys Working Group (IBTS)		2 Sco <u>2 Eng</u>
ICES Planning Group for Herring Surveys (PGHERS)		3 Sco
<u>ICES Working Group on Mackerel and Horse Mackerel Egg Surveys (WGMEGS)</u>		2 Sco 1 Eng
<u>ICES Planning Group on Aerial and Acoustic Surveys for Mackerel (PGAAM)</u>		2 Sco 2 Sco
ICES Workshop on mackerel & h mackerel egg staging (WKMHMES)		<u>2 Eng</u>
ICES Working Group on Beam Trawl Surveys (WGBEAM)		2 Eng
ICES SG MID		2 Eng

As requested, a separate fiche has been constructed which contains all of the details relating to international coordination meetings planned for 2006. In some cases it has not been possible to separate the staff costs for involvement in such meetings from the work itself. These instances have been highlighted. As such the estimates for international co-ordination include the full costs of travel and subsistence allowances for attending the meeting, but are to some extent an understatement of the staff costs involved in such meetings. The individual work fiches have been checked to ensure that there is no double counting of expenses or staff time related to these meetings within the UK programme.

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Costs of database and coordination -

See the summary of costs at table Annex 1.E

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13. Resources and costs

The financial details are summarised below and are given in more detail in the summary tables in Annex 1. The scientific co-ordination and database costs are common to both areas and for cost purposes have been split equally between the North Sea and Western Areas.

Overall estimates of costs for 2006 (€):

Minimum programme	6,694,073
Extended programme	1,737,796
Total costs	8,431,869

14. Participating Departments and Agencies

Department of Environment, Food and Rural Affairs
West Block, 3-8 Whitehall Place, London SW1A 2HH

National Coordinator: Kevin Williamson - Director – Fisheries Statistics
Marine Fisheries Agency
West Block, 3-8 Whitehall Place, London SW1A 2HH
Tel 0044 207 270 8070
email: kevin.williamson@mfa.gsi.gov.uk

Scottish Executive, Environment and Rural Affairs Dept. (SEERAD), Pentland House
Edinburgh

Department of Agriculture and Rural Development (DARD): Fisheries Division
Hut 5 Castle Grounds, Stormont Estate, Belfast, United Kingdom; Agricultural and
Environmental Sciences Division, Newforge Lane, Belfast BT9 5PX, Northern Ireland,
United Kingdom

FRS Marine Laboratory (FRS), Aberdeen Scotland AB11 9DB.

Centre for Environment, Fisheries and Aquaculture Science (CEFAS)
Lowestoft, Suffolk NR 330HT

Appendix 1



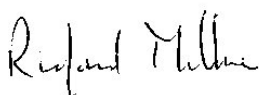
Bilateral Agreement between the UK (CEFAS) and Belgium (CLO-DvZ) for the Collection of Length and Age Samples under the Minimum Programme of Regulation 1639/2001

In its report from December 2003, SGRN noted that length and age sampling of landings by foreign vessels could be improved by better task sharing between the countries involved.

In compliance with this, the UK and Belgium have agreed that samples of fish landed by Belgian vessels into the UK and transported for first sale into Belgium will be sampled upon arrival in the Belgian auctions by CLO-DvZ as part of the Belgian National Data Gathering Programme under the requirements of the EC Data Collection Regulation (1639/2001). CLO-DvZ will ensure that the estimated additional landings are included in their target when calculating sampling levels and when applying for funds to cover this additional sampling requirement.

At the same time, the UK agrees to carry out additional sampling of UK vessels landing into the UK in order to compensate for the small landings by UK vessels into Belgium which are not sampled by CLO-DvZ.

This agreement confirms the arrangements in place for 2004, and agrees that it should be continued in 2005 and 2006.

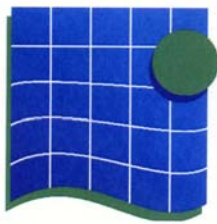
Signed for CEFAS: 

Date: 29/04/04

Signed for CLO-DvZ: 

Date: 10/05/04

Appendix 2



Marine Institute
Foras na Mara

**Bilateral Agreement between Ireland (M.I. Ireland) and
Scotland (MARLAB) for the Collection of Length and Age Samples
Under the Minimum Programme of Regulation 1639/2001**

In its report from December 2003, SGRN noted that length and age sampling of landings by foreign vessels could be improved by better task sharing between the countries involved.

In compliance with this, Ireland and Scotland have agreed that samples of fish landed by Irish vessels into Scotland will be sampled by MARLAB. Landings by Scottish vessels into Ireland and transported for first sale into Scotland will be sampled upon arrival in the Scottish auctions by MARLAB as part of the Scottish National Data Gathering Programme, under the requirements of the EU Data Collection Regulation (1639/2001). MARLAB will ensure that the estimated additional landings are included in their target when calculating sampling levels, and when applying for funds to cover this additional sampling requirement.

At the same time, Ireland agrees to carry out additional sampling of fish landed by Scottish vessels for sale in Ireland. MI also ensures they will sample Irish vessels landing fish into Scotland which are transported for first sale in Ireland as part of the Irish National Data Gathering Programme, under the requirements of the EU Data Collection Regulation (1639/2001). MI will ensure that the estimated additional landings are included in their target when calculating sampling levels, and when applying for funds to cover this additional sampling requirement.

This agreement confirms the arrangements in place for 2004, and agrees that it should be continued in 2005 and 2006. After this time this current agreement will be extended subject to review.

Signed: Geáinín Ní Choshaí
Marine Institute, Ireland.

Date: 26/04/2005

Signed: Margaret A. Beale
MARLAB, Scotland.

Date: 3/05/2005

Annex 1.A

Costs for Discards (Chapter III, E) and lengths or ages of Discards (Chapter III, H) – Minimum Programme

Institute	CEFAS	FRS	DARD	Total
Staff Days	2,588	879	528	3,996
Staff Costs (€)	463,224	35,443	130,430	781,255
Research Vessel days	--	--	--	--
RV Costs (€)	--	--	--	--
Sea Allowances (€)	0	126,894	14,016	140,909
Travel Costs (€)	123,989	26,250	0	150,239
Durable equipment (€)	0	0	0	0
Consumables (€)	14,138	13,687	0	27,825
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	131,396	0	0	131,396
TOTAL (€)	732,747	354,433	144,445	1,231,625

Annex 1.B

Costs for studies of commercial fleet CPUE indices (Chapter III, F) – Minimum Programme

NB – most costs are not separately identifiable, and are thus included with the costs for sampling landings (see Annex 1.D)

Institute	CEFAS	FRS	DARD	Total
Staff Days	9	0	0	9
Staff Costs (€)	2,464	0	0	2,464
Research Vessel days	--	--	--	--
RV Costs (€)	--	--	--	--
Sea Allowances (€)	0	0	0	0
Travel Costs (€)	0	0	0	0
Durable equipment (€)	0	0	0	0
Consumables (€)	0	0	0	0
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	0	0	0	0
TOTAL (€)	2,464	0	0	2,464

Annex 1.C

Costs for research vessel cruises (Chapter III, G) and most biological parameters (Chapter III, I) – Minimum Programme

Institute	CEFAS	FRS	DARD	Total
Staff Days	1,523	965	465	2,953
Staff Costs (€)	289,735	240,435	138,704	668,874
Research Vessel days	107	128	47.5	282.5
RV Costs (€)	1,334,602	1,359,945	447,434	3,141,981
Sea Allowances (€)	110,665	132,523	17,520	260,708
Travel Costs (€)	30,951	1,285	0	32,236
Durable equipment (€)	0	0	0	0
Consumables (€)	57,522	61,172	658	119,353
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	12,191	0	0	12,191
TOTAL (€)	1,835,666	1,795,361	604,316	4,235,343

Annex 1.D

Costs for Sampling Landings for Length and age (Chapter III, H) including sampling for commercial CPUE indices (Chapter III, F) – Minimum Programme

Institute	CEFAS	FRS	DARD	Total
Staff Days	871	778	17	1,666
Staff Costs (€)	140,568	180,413	68,701	389,682
Research Vessel days	--	--	--	--
RV Costs (€)	--	--	--	--
Sea Allowances (€)	0	0	0	0
Travel Costs (€)	3,504	56,245	1,579	61,328
Durable equipment (€)	0	0	0	0
Consumables (€)	45,916	14,249	10,463	70,628
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	207,291	66,844	0	274,135
TOTAL (€)	397,278	317,752	80,743	795,773

Annex 1.E

Minimum programme: Economic data (Chapter IV) and Coordination (Database & Others – Articles 9 & 10) – Minimum Programme

N.B. Where possible the costs associated with international co-ordination meetings have been included in this section. However, for some such work carried out by FRS, the staff costs associated with the meetings are still included in the sections to which the work relates. More information is provided in the individual fiches.

Institute	CEFAS	UK DATABASE	Economic Data	FRS	DARD	Total
Staff Days	258	35	178	n/a	162	633
Staff Costs (€)	76,882	12,357	100,850	0	39,933	230,021
Research Vessel days	--	--	--	--	--	--
RV Costs (€)	--	--	--	--	--	--
Sea Allowances (€)	0	0	0	0	0	0
Travel Costs (€)	19,965	3,052	25,403	35,594	956	84,970
Durable equipment (€)	0	0	0	0	0	0
Consumables (€)	0	0	0	0	0	0
Computing (€)	2,920	0	0	0	0	2,920
Others (inc. subcontracting) (€)	0	0	74,458	0	0	74,458
TOTAL (€)	99,767	15,409	200,711	35,594	40,889	392,369

Annex 1.F

Costs for research vessel cruises (Chapter III, G) and most biological parameters (Chapter III, I) - Extended programme

Institute	CEFAS	FRS	DARD	Total
Staff Days	247	396	401	1,044
Staff Costs (€)	47,501	101,384	114,102	262,988
Research Vessel days	14	62	53	129
RV Costs (€)	223,280	512,650	499,242	1,235,173
Sea Allowances (€)	18,687	46,152	17,979	82,818
Travel Costs (€)	9,928	0	0	9,928
Durable equipment (€)	0	0	0	0
Consumables (€)	40,149	26,863	0	67,012
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	0	0	0	0
TOTAL (€)	339,546	687,050	631,323	1,657,919

Minimum Programme

English seiners (ENGSEI), cod IV
 UK beam trawlers (UKBT North Sea), sole IV
 UK beam trawlers (UKBT North Sea), plaice IV
 Scottish Seiners (SCOSEI) west coast, whiting
 Scottish light trawlers (SCOLTR)
 Scottish Nephrops trawlers (SCONTR)

derogation requested
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Extended Programme

English seiners (ENGSEI), haddock IV
 English seiners (ENGSEI), whiting IV
 English trawlers (ENGTRL) haddock IV
 English trawlers (ENGTRL) whiting IV

Annex 1.A**Costs for Discards (Chapter III, E) and lengths or ages of Discards (Chapter III, H) –****Minimum Programme**

Institute	CEFAS	FRS	DARD	Total
Staff Days	2,591	879	550	4,020
Staff Costs (€)	485,497	191,410	123,254	800,161
Research Vessel days	--	--	--	--
RV Costs (€)	--	--	--	--
Sea Allowances (€)	108,741	129,470	12,920	251,131
Travel Costs (€)	154,486	26,783	0	181,269
Durable equipment (€)	0	0	2,979	2,979
Consumables (€)	23,714	13,965	4,805	42,485
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	52,136	0	0	52,136
TOTAL (€)	824,575	361,628	143,958	1,330,161

Annex 1.B**Costs for studies of commercial fleet CPUE indices (Chapter III, F) – Minimum Programme**

NB – most costs are not separately identifiable, and are thus included with the costs for sampling landings (see Annex 1.D)

Institute	CEFAS	FRS	DARD	Total
Staff Days	71	0	0	71
Staff Costs (€)	21,893	0	0	21,893
Research Vessel days	--	--	--	--
RV Costs (€)	--	--	--	--
Sea Allowances (€)	0	0	0	0
Travel Costs (€)	0	0	0	0
Durable equipment (€)	0	0	0	0
Consumables (€)	0	0	0	0
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	0	0	0	0
TOTAL (€)	21,893	0	0	21,893

Annex 1.C

Costs for research vessel cruises (Chapter III, G) and most biological parameters (Chapter III, I) – Minimum Programme

Institute	CEFAS	FRS	DARD	Total
Staff Days	1,358	898	148	2,404
Staff Costs (€)	295,151	234,271	41,399	570,821
Research Vessel days	103	105	12	220
RV Costs (€)	1,757,987	1,039,741	66,746	2,864,474
Sea Allowances (€)	132,276	151,129	3,876	287,281
Travel Costs (€)	22,344	1,430	404	24,178
Durable equipment (€)	0	0	0	0
Consumables (€)	61,405	34,261	220	95,886
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	8,938	0	13,905	22,843
TOTAL (€)	2,278,101	1,460,832	126,551	3,865,483

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Annex 1.D

Costs for Sampling Landings for Length and age (Chapter III, H) including sampling for commercial CPUE indices (Chapter III, F) – Minimum Programme

Institute	CEFAS	FRS	DARD	Total
Staff Days	871	550	303	1,724
Staff Costs (€)	149,119	119,375	64,441	332,935
Research Vessel days	--	--	--	--
RV Costs (€)	--	--	--	--
Sea Allowances (€)	--	--	--	--
Travel Costs (€)	3,575	50,468	1,074	55,117
Durable equipment (€)	0	0	0	0
Consumables (€)	32,987	13,406	10,308	56,702
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	219,959	58,577	0	278,536
TOTAL (€)	405,641	241,826	75,823	723,291

Annex 1.E

Minimum programme: Economic data (Chapter IV) and Coordination (Database & Others – Articles 9 & 10) – Minimum Programme

N.B. Where possible the costs associated with international co-ordination meetings have been included in this section. However, for some such work carried out by FRS, the staff costs associated with the meetings are still included in the sections to which the work relates. More information is provided in the individual fiches.

Institute	CEFAS	UK DATABASE	Economic Data	FRS	DARD	Total
Staff Days	263	40.5	206	n/a	163	672.5
Staff Costs (€)	78,859	12,608	87,727	n/a	37,542	216,736
Research Vessel days	--	--	--	--	--	--
RV Costs (€)	--	--	--	--	--	--
Sea Allowances (€)	--	--	--	--	--	--
Travel Costs (€)	18,844	2,518	22,493	30,970	894	75,719
Durable equipment (€)	0	0	0	0	0	0
Consumables (€)	0	0	0	0	0	0
Computing (€)	2,979	0	0	0	0	2,979

Others (inc. subcontracting) (€)	0	0	105,762	0	0	105,762
TOTAL (€)	100,683	15,126	215,982	30,970	38,436	401,196

Annex 1.F

Costs for research vessel cruises (Chapter III, G) and most biological parameters (Chapter III, I) - Extended programme

Institute	CEFAS	FRS	DARD	Total
Staff Days	74	534	597.5	1,205.5
Staff Costs (€)	15,941	128,737	166,657	311,335
Research Vessel days	8	84	75	167
RV Costs (€)	136,543	681,045	414,381	1,231,969
Sea Allowances (€)	7,150	96,821	21,291	125,262
Travel Costs (€)	0	0	0	0
Durable equipment (€)	0	0	0	0
Consumables (€)	1,490	17,019	432	18,940
Computing (€)	0	0	0	0
Others (inc. subcontracting) (€)	0	0	0	0
TOTAL (€)	161,124	923,622	602,761	1,687,506

Annex 2

English Discard Sampling and Raising Procedure